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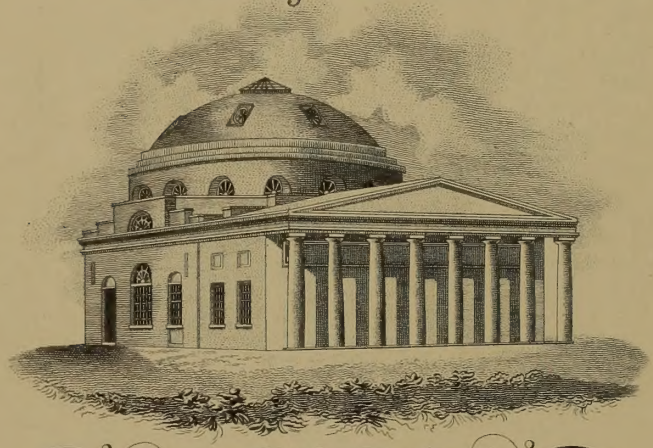

University of Maryland

University of Maryland Theses

Early Theses of Medicine and Doctor of Physic Dissertations with Chemical Tables of Contents

These manuscripts described as either an Inaugural Dissertation or a Medical Essay were presented to the University of Maryland Faculty Degree of Doctor of Medicine and/or Doctor of Physic during the years 1807-1812. The individual dissertations were bound together during the 1900's. The original handwritten contents for the bound volumes were not always alphabetical or in the order of earlier years. The chronologic listing of dissertations, with a table of contents, has been inserted at the beginning of each volume.

The project team who investigated and corrected the titles of contents were: Richard J. Stokes, Historical Library Preservation Officer, Mark Millington-Ellis, Metadata Management Librarian, Angela Cochran and Carol Harding-Dorsey, Resources Designers, Sarah Hance, Alex Gelner and Megan Wolff, Services Designers.

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University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

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HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

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AN

Inaugural Dissertation

ON

Six Surgical Cases.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Jacob Henry Hartman

of

Baltimore - Md.

Session of 1868-69

IMB
18957

Case 1

"Dislocation of the Femur"

Nov 23rd 1868.

James C. Dowling, white aged 33 years, was admitted into the Balt. Infirmary from one of the lower counties of Maryland.

He was a person of fine muscular development, a carpenter by trade, and gave his history of the accident as follows:- On the morning of the 23rd of Nov, after indulging in several drinks, he was riding in an open carriage with two other persons, (the seat being only intended to accomodate two) he either lost his balance or was pushed out of the carriage by the

others, falling upon the right hip, the fall occasioned a dislocation of the right Femur, upwards and backwards upon the dorsum of the ilium. He was conveyed home and three physicians were summoned, who placed him under chloroform and made long and continued efforts at reduction, they failed to reduce it, and sent by him a written certificate to that effect.

When admitted, the affected limb presented a shortening of one and a half inches, an in-version of the knee and foot, the inner margin of the latter,

resting against the instep of the left foot, the knee in front of, and a little above the opposite one, the anterior surface of the limb, facing almost directly to the left side, the trochanteric prominence flatter, less prominent, and more elevated than on the healthy limb. There was considerable echymosis and swelling around the joint, he complained of great pain, especially on the upper and inner side of the thigh.

Oct 28th

The patient was chloroformed in the presence of the class and the reduction was

then accomplished by the follow-
-ing manipulations, Prof Smith
standing on the right side of the
patient, (who was placed on
a table of convenient height)
seized the right knee with his
left hand, and with the aid of
an assistant forcibly flexed
the thigh upon the Pelvis, and
the leg upon the thigh, the knee
then being in the vicinity of the
left shoulder, this constituted the
first stage; then holding the
foot in the position mentioned
viz. inversion the knee was pushed
as far to the right as possible
or in other words "everted"; this

completed the second stage. Eversion of the foot followed by complete extension of the limb, which was the third and last stage, during which the head of the Femur, slipped over the border of the Acetabulum into the cavity with a loud snap, which was audible over the whole Theatre, The operation occupied but a few moments and nothing could have been more satisfactory than the result.

The patient suffered for some hours after the operation with severe pain, a few grains of Opium, was directed for him.

in broken doses, which somewhat relieved the pain.

Nov 29th

The patient was doing very well and comparatively easy, rested tolerably well the night before, There was considerable swelling and he complained of slight pain about the seat of injury.

Nov 30th The patient was improving rapidly, and was sitting up in bed.

Dec 5th Found the patient sitting up in a chair, had considerable use and motion in the limb, complained of no pain whatever, Dec 11th The patient left the Hospital well, and with the use of his injured limb.

Case II

Epithelioma

Sept 28th 1868.

Col R. B. of Prince George's Co, Maryland aged sixty five, was admitted into the Baltimore Infirmary.

He gave the history of his case as follows, About three years before a minute ulcer appeared in the groove of the upper lip, near the junction of the mucus and cutaneous surfaces of the latter. It had been treated with ointment „Nitr. Argenti" and other applications by his country physician and sometime it would seem

almost healed only to break out again as badly as before. He had suffered no pain in it whatever. He did not drink or use tobacco in any form, but attributed it to a cut of the lip by his razor whilst shaving.

When he came into the Hospital, the ulcer presented the following appearance, it was about the third of an inch in area, of a grayish color, hard elevated edges and depressed in the centre.

Octo 1st

Dr Butler, then visiting Surgeon to the Hospital, saw the

patient, and diagnosed it "Epithelioma".

He determined to excise it as the only hope for permanent relief. The patient being chloroformed in the recumbent posture, and his head being firmly held by an assistant; Dr Butler, made with a scalpel two incisions like an inverted V - meeting beneath the nose; and seperating one half inch at the lip the bleeding from the superior Coronary artery was arrested by the fingers, cold water and torsion, the ligature being objectionable

as adhesive union was proposed.

Three suture pins were then passed through the skin and cut surfaces, but not through the mucus membrane; and a (figure eight ligature twisted about them, thus there was accurate apposition of the cut surfaces. The part excised presented a grayish white appearance and was hard and gristly to the touch. Dr Butler ordered the part to be dressed with Cerate simplex and lint.

Oct 3rd

The patient had been sitting up since the day before, and felt

very well, Union had taken place below and there was no suppuration; pain or bleeding.

Oct 5th

Col B. was doing well. Complete union had taken place Dr Butler removed the suture pins-

Oct 6th to 9th

The patient was still improving and had been walking about the city for the last two days. He had no soreness or pain in the part operated upon.

Oct 10th

Col B. left the Hospital

well. There would be no perceptable scar, as it would be concealed by the mustache.

Note.

This patient was seen about the middle of December and there was no return of the original disease up to that time

Case III

Ligation of the Femoral Artery.

June 13th 1868.

Thomas B. by occupation a fisherman, aged 59. was admitted into the Baltimore Infirmary for Epithelial Cancer, involving the right Ala, of the nose, part of which was eaten away, and the inner Canthus of the right eye, the sight of which was still perfect, It began five years before, but had advanced none for the past two years, and had never caused him any pain.

Proper treatment was instituted on the 25th of July. In forty two days after admission into

the Infirmary, he complained of pain and swelling in the right Popliteal Space, which upon examination was found to contain a pulsating tumor, about the size of the fist, expanding synchronously with the action of the heart, ceasing its pulsation, when the Femoral artery was compressed above in the thigh, and communicating to the ear a loud rasping bruit. The patient when questioned as regards the origin of this tumor, stated that he had observed a swelling for two months past at that point, but as it was painless, and

and caused no inconvenience, he thought it of no consequence, also that he had never had Syphilis or taken courses of Mercury, but his health had always been good until the Epithelioma appeared.

Compression was first attempted by means of a Tourniquet continually applied over the vessel in the thigh, under this treatment which was continued for some days, the Aneurism increased in size, the pain in the back of the leg became severe, and extended along the course of the Popliteal nerve to the foot, and the patient was unable to straighten his leg

or walk. After an examination of the Aorta throughout its course, it was decided to ligate the Femoral Artery, which was done on the 12th of August by Dr. James H. Butler, in the following manner, — He first made an incision about three inches in length in the lower portion of Scarpas triangle, which divided the skin and superficial fascia, due care being taken to avoid the Saphena vein, he next divided the deep fascia on a director to the same extent of the previous incision, and then treated the sheath of the Femoral Artery in like manner; A silk

ligature was then passed around the artery with an Aneurism needle and tied firmly.

The incision was then closed and held together by strips of adhesive plaster, and a pad and bandage applied over the wound.

There was hardly any bleeding and the operation was performed without the use of chloroform.

The limb was cold for some hours after the operation: it then became inordinately warm, owing to the increased activity of the capillary circulation: chilly sensations were experienced, and there was considerable suppuration from

the wound for some days.

On the 21st day after the Operation the ligature was removed without hemorrhage. The tumor gradually diminished in size, and at the time of the discharge of the patient from the Hospital it was scarcely perceptable.

Case IV

Tracheotomy.

June 3rd 1868.

Richard Ford, colored aged 4 years from Prince George County, Md. was admitted into the Baltimore Infirmary.

The history of the case was as follows; On the evening of July 30th he was playing with some grains of corn, and by chance one passed into his windpipe; when the accident occurred, he was held by the heels and shaken, but to no effect, Since then he has been easy, with the exception of a slight cough occasionally and then there seemed a body

rising and falling with each respiration. There was no dullness over either lung or loss of ordinary sound. With Stethescope over the Larnyx there was heard a sort of valvular clatting sound. Prof Johnston saw the case on the morning of the above date, and decided upon performing Tracheotomy.

He proceeded as follows: the boy being placed upon a table, a pillow was placed beneath his neck so as to make it more prominent and his head held by an assistant. A Tenaculum having the con-

-vexity of its curve grooved, was passed into the Trachea through the depression just be-
-neath the Cricoid cartilage, the point being directed upwards. The integument in the median line was then incised for the distance of one half inch beneath the point of the previous puncture. Not waiting for the bleeding to cease, the point of the scalpel was passed along the groove of the Tenacu-
-lum into the Trachea and the latter cut through to the extent of the previous incision. Efforts of severe coughing immediat-

-ly followed with the violent escape of blood and wind through the mouth and opening into the Trachea and a large grain of corn was ejected through the latter five or six feet into the air.

Choking was avoided by separating the margins of the incision and constantly wiping away the blood with a sponge. He was removed in the reclining posture to his bed a towel being merely thrown over the aperture. The boy inspired through his nostrills, which were dilated at each inspiration, and expired through the opening. The operation was Chassagnac's.

Upon examining the grain of corn it was found softened and enlarged from imbibition of the fluids of the air passages.

June 4th 9 A. M.

The patient was doing very well; he breathed more easily through the mouth and nostrils the aperture was closed and the edges adherent. he had several times during the night the paroxysms of hissing due to the forcible escape of air through the opening, but nevertheless rested well. He ate a hearty breakfast and did not complain of feeling unwell from the operation.

June 4th 12 M.

Found the boy sitting up in bed and enjoying his dinner, Prof Johnston brought the edges of the integument together with a silk ligature; (he would have used a suture pin, but the boy was to be removed to his home the following day) he directed a peice of lint to be placed over the wound secured by a bandage, passed around the neck and the ligature to be removed in a couple of days, this to complete the treatment.

June 5th The patient was removed from the Hospital on the morning of the above date, doing very well in every respect and in a favorable condition to a speedy recovery.

Case V

Strangulated Hernia.

Oct 11th Sunday. 2 P.M.

Dr Butler was called to see a Jewish child aged two and a half years, who had oblique Inguinal Hernia since shortly after birth. It had several times come down and been replaced by their family physician. It was on the right side and had been down since Friday afternoon, continued efforts had been made (the patient being under Chloroform) the day before by two physicians to reduce it, but they were ineffectual. The child was found quiet, and not seeming to suffer any.

It had just eaten dinner. The abdomen was hard and swollen and the sac seemed to contain hard feces. The patient being chloroformed, Dr Butler attempted to reduce it, but failed, he then determined upon operating, and proceeded as follows: An incision one and a half inches long was first made with a bistury, obliquely over the middle of the tumor, then the first covering beneath, the super-ficial facia and with it the Inter-Columnar were raised with a small pair of forceps and nitted, the director was then passed first up, and then down, and then

membranes divided to the extent of the previous incision. The next membrane the Cremaster fascia, and the next the Transversalis fascia were treated in like manner. He then reached a bulging sac, fluctuating and evidently containing fluid, it looked dark, and presented the appearance of the intestine commencing to ulcerate, Dr Butler was in doubt. But passing his finger upwards he felt above and inside of this sac a little tumor which he knew to be the intestine, he nipped and slit this sac in like manner with the others and a

quantity of serum gushed out. Then his finger detected a constricting band of fibres at the external abdominal ring. He next passed Sir Astley Cooper's knife along the finger on its flat surface, but was unable to divide the stricture. He said "he always tried this method in every case but was unable to do anything with it. He then took a plain bistury passing it flat along the index finger of his left hand, the edge directed outwards then turning it so as to bring the edge directly upwards; he slit the constricting fibres, and the intestine was then returned with perfect ease.

Three interrupted silk sutures were passed through the margins of the integument and the incision drawn together, a wet compress which was ordered to be kept wet constantly, and it secured by a bandage passed around the hips, were the dressings.
Ꝛ Opii Camph. and quiet were ordered and if Peritonitis ensuer-vened Calomel and Opium.
Dr Butler had never operated before, or heard of an operation on a child so young. A truss had been procured for this child but it could not be worn, on account of its producing so

much pain.

From 11th to 15th.

The patient improved rapidly, there seemed to be no pain or soreness at the seat of the operation.

Oct 17.

Dr Butler removed the sutures, the child was doing remarkably well.

Oct 19.

Dr Butler said the child was well and needed no further medical attention.

Case VI

Epithelioma.

Oct 30th 1867.

M. P. (white) aged sixty two was admitted into the Hospital. He had an oval ulcer, on the dorsum of the left hand with hard elevated borders and about two inches in diameter. There was a slight enlargement of the Sigmoid gland at the elbow, due to sympathetic irritation. The patient was brought before the class on the morning of Nov 2nd when Prof Smith diagnosed it "Epithelioma" and proceeded to treat it accordingly. He brushed it over with a thick

of Caustic Potassa, and directed it to be dressed with Turner's Cerate, also that the Caustic be applied in a Couple of days.

Nov 16th

The resident physician has reapplied the Caustic, the ulcer presented a healthy appearance with granulations over the surface, the border was indurated and inflamed from the application of the Caustic Potassa. The gland at the elbow was smaller than at the last examination, the veins were somewhat injected on the left forearm. he complained of a

sharp, shooting, & stinging pain over the whole dorsum of the hand, extending partly up the fore-arm. There had been no other dressing applied but Turner's Cerate.

Nov 24.th

The patient's hand looked much improved there was healthy pus and granulations on the surface of the ulcer and there was no appearance of the original disease; He had a slight pain about the middle of the knuckle. Prof Smith thought the disease arrested for the time being, and recommended highly the appli-

-cation in such cases, of two parts of Caustic Potassa to one of Opium. A piece of adhesive plaster with a hole in it somewhat smaller than the ulcer being applied first over the latter, to prevent the diffusion of the Caustic preparation amongst the surrounding healthy tissues.

Nov 29th

The patient's hand looked very well and seemed as if it would be healed in a few days

Nov 30th

The patient left the Hospital.

Jany 8th.

Mr. T. returned to the Hospital his original disease had again made its appearance in the old cicatrix worse than before, Prof Smith thought that excision of the ulcer was the only hope of complete recovery, He excised it with a Scalpel, cutting outside the diseased structures and exposing the tendons, no Chloroform was used, he ordered it to be dressed with lint, and watery solution of Opium to be applied to allay pain

Jany 11th

Surfaces and edges of the Ulcer looked perfectly healthy, the gland at the elbow was reduced in size.

Jany 18th

The hand presented a favorable appearance, he slight pain in the fore arm he stated that "his general health was not so good like the operation. He was using Unguentum of

℞

Proto Chlor Hydrg ℈j
Turners Cerate ℥j

M. fiat ungt.

Sig. To be applied twice a day

Jany 24th.

The ulcer did not look so well, a little dil. nitric acid was applied to repel exhuberant granulations, the latter had been bleeding and discolored the surface. the Sigmoid gland was not increased in size; he was ordered a tonic pill consisting of

℞

Proto Carb Ferri - grs XX.
Nux-Vomica - grs X.
Sulph Quinia - grs XX.

M. fiat. pill no X.
Sig. One pill ter die.

The Ungt. of Calomel and Turnesis Crate, was ordered to be stopped

and in its place, the following was ordered.

℞.

Acid Carbol grs V.
Turners Cerate ℥j.

M. Sig. to be applied twice a day.

Febry 5th

The granulations were unhealthy and abundant, also very spongy, and required an astringent. The Ungt of Carbolic Acid, and Turners Cerate was ordered to be discontinued and to use,

℞ – Argenti – Nitras. grs iij
Aqua Distil. ℥j

M. Sig. To be applied bis die.

Feby 12th.

The patient's hand very much improved and the ulcer nearly healed, all washes &c were ordered to be stoped, and dressed with Cerati Simplex.

Feby 18th.

The patient left the Hospital, his hand being entirely well.

AN

Inaugural Dissertation

ON

Syphilis

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

George [illegible]

of

Front Royal Virginia

Session of 18[illegible]-[illegible]. [illegible]

Syphilis.

Man, as it came from the hand of his maker, was possessed of a perfect mind and body: but when he transgressed those laws which were instituted for the government of his organism, he brought upon himself disease and death: and prominent among those ailments to which the human frame is heir, is that which forms the subject of this dissertation — Syphilis.

The term syphilis has been applied indiscriminately to two diseases, which, primary affections though very similar — yet in their

ulcerative syphilis, are essentially different: the one is purely a local disease, while the other is found to be caused by certain constitutional conditions, which constitute the difference between them.

The origin of syphilis has been a subject of considerable discussion and of the [illegible], and various opinions have been expressed and warmly contested as to its origination. Whatever that may be, it is quite evident from history, that the disease did not exist (at least in civilized countries), previous to the 15th and of the 15th century, when it appeared about

with considerable virulence among the inhabitants of Italy, and the French troops - who were at that time invading that country; rapidly spreading throughout Europe, filling all who witnessed its ravages with terror and consternation. That there is an essential difference in the formation and effects of these venereal diseases, is conceded by all who have taken a close and careful view of the subject. The simple venereal ulcers of a non-syphilitic character are known to have existed from time immemorial, and they are at present as prevalent

[illegible] constitution have been re-
[illegible] the [illegible] [illegible]
[illegible] [illegible] years. Of
twelve hundred and ninety two cases
of general syphilis collected from
statistics by Burstal, [illegible]
[illegible] [illegible] [illegible]
[illegible] but [illegible] to the
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
significance of the local [illegible] it
is more than [illegible]
[illegible] [illegible] [illegible]
and is [illegible] [illegible]
[illegible]
[illegible] Bassereau [illegible]
Burnstead. [illegible]
[illegible] [illegible]

duality of poisons, that he lays it down as a law, that "whenever a person has a disease of the [illegible] constitution, [illegible] aversion of the [illegible] phenomena is first of all due to the fact that the person from whom the contagion came had a disease which was [illegible] by constitution [illegible] to the patients now, was of the opinion that there is no difference in the kinds of matter, and no variation can arise in the disease from the matter being of different degrees of [illegible]; the variations of the synch-

[illegible] is [illegible]
[illegible] constitution
and in it [illegible] [illegible]
the time." It is [illegible] [illegible]
to remark further upon this point
as the duality of [illegible] is now
only admitted at the present day.

"A chancre is the initiatory lesion of acquired syphilis, arising
at the point at which the virus enters the system, and separated from the general manifestations of constitutional infection by a period of incubation." [illegible]
[illegible]

[illegible] as [illegible] not [illegible]
[illegible] distinguished from
it — and to which the name chan-
cre is [illegible] applied. This is that form of
ulcer [illegible] which is not competent to af-
fect the system at large and
affords no protection [illegible]
inoculation; &c. This form of ul-
cer, from its resemblance
to chancre, the term chancroid
has been applied. But as this
disease [illegible] embraced by the term syphilis,
it will be excluded from con-
sideration in this essay.

A true hard Hunterian chancre is one which is produced by the inoculation of syphilitic virus into any part of the body. By far the most common seat of these primary sores is upon the genitals, because most exposed, though as before been told they may occur upon any part where the virus comes in contact with an abraded surface; as the anus, lips, tongue, nose, or extremities. These specific ulcers do not always present an appearance characteristic of themselves, though frequently they may be diagnosed by the following marks. The

[illegible] of the infection [illegible]
particularly by the inducted
cases. These characters are [illegible]
sometimes wanting, and in [illegible]
of a non specific fever occa-
sionally assume these condi-
tions. Autoinoculation is the
most certain means of diagno-
sis, but even this sometimes fails.
As regards the treatment of chan-
cres, diagnosis is of [illegible] con-
quence; but as regards prognos-
is it is of the utmost importance.

The usual course of a chancre
may be briefly stated thus, in
about fourteen days (that being
the average period of incubation)

after an irritating cause, a superficial mass occurs, not involving the whole thickness of the skin, which may heal without any cicatrix, or the irritation given it may concrete upon its surface and form a crust, which after a few days falls off, leaving a simple red patch. Also which involves the whole thickness of the skin, presenting the appearances mentioned above as usually assumed by [illegible] ration, sloughing edges and gray cicatrix [illegible]

in a greater or less period. The ul-
cer frequently heals without treat-
ment - but sometimes being great-
ly aggravated by injudicious sti-
mulation.

The treatment of cancers
is purely local: rest cleanse
ing enjoined upon the patient;
and cleanliness of the parts is
strictly to be maintained. So the
ulcers sometimes heal without
other attention. It is often nec-
ry however to use medicated ointments
for their disinfectant or stimula-
ting properties, or lotions or so-
tions of corrosive sublimate, dilute
nitric acid or [illegible]

Cicatrices of scurvy. On general principles are to be treated as other ulcers. Stimulation or cauterization is seldom necessary. [illegible] applications which have a specific effect. The old plan of distinct cauterization with a view to prevent constitutional manifestations is now abandoned as useless; as the disease becomes general soon after inoculation.

As a rule, suppuration bubo is not a concomitant of chancre though it is not always absent. Its presence depends upon the amount of irritation at the seat of the sore. This is [illegible]

or less induration of the [illegible]
gangrene. That is [illegible]
is in the course of the [illegible]
ses leading to that [illegible] the
induration in the [illegible]
as a diagnostic mark in [illegible]
mining the character of [illegible]
ulcer. There is no special indica
tion in the treatment of indura-
it is to be conducted upon [illegible]
eral principles.

Syphilis as it affects the sy
tem at large is so varied in its
manifestations that it would
be inexpedient to enter minutely
by into its consideration [illegible]
per like this. General [illegible]

has been divided into secondary and tertiary. Recent observers [illegible] to secondary symptoms are referable certain affections of the skin (syphilitic eruptions), and of some parts of the mucous membrane (patches, condylomata, and superficial ulcerations), and the enlargement of the glands in and around the seat of the primary affection, and of the lymphatic glands (enlargement of the glands in various parts of the body, especially the neck), etc. Tertiary symptoms are those of a [illegible] character which take place in the subcutaneous and mucous

cellular tissue (gummata), in the [illegible] in the bones and osseous tissues (periostitis, osteitis caries, etc.), and in the deep organs."

The period of latency between the appearance of the chancre and constitutional manifestations, varies from two weeks to six months, the average period being between twenty and forty five days. When "in most instances, either headache accompanied by general malaise, engagement of the submaxillary glands, acne capitis, or an eruption upon the abdomen or arms" heralds the beginning of the train of [illegible]

nomena so indicative of syphilization. But these varied phenomena must perforce be traced by, as their co-existence would be incompatible with the length to which it is desirable to extend this thesis. It may be well to mention in passing, that these secondary lesions assume all the varied forms of skin affections with diseases of its appendages; also diseases of the mucous membranes, eyes, and various other tissues. Syphilodermata may be distinguished from nonspecific eruptions by the history of the case, by the color the copper or ham color being very constant in specific eruptions - by the absence of

itching and by the circular form so constant in syphilitic eruptions.

In speaking of the treatment of chancres, nothing was said concerning constitutional medication, as it was deemed best to defer it until the treatment of general syphilis was under consideration; which shall now receive attention. Formerly, it was the custom as soon as a patient with a venereal ulcer presented himself for treatment immediately to begin feeding him with mercury; which was continued until profuse salivation was induced and in many instances with most disastrous effects;

but as science has advanced this wholesale mercurialization has given place to more rational treatment; and even those who most warmly advocate its use do not carry it beyond a "slight touching of the gums." The use of mercury in primary syphilis is to be deprecated - and for these reasons: first - because mercury as an agent impoverishes the system: and since some vigorous and robust subjects have undoubtedly had syphilis and yet no constitutional manifestations, it would be better to improve the nutrition of the whole organism, that the constitution may be better able to re-

sist the inroads of the disease. Therefore tonics, good food and good hygienic circumstances with avoidance of alcohol and all depressing agencies, would be better treatment. Second - from its continued use the system becomes accustomed to mercury when in a great measure it loses its beneficial effects; it is therefore better to defer the employment of this agent until nature may be first assisted, and that is when the system endeavors to throw off the poison, as is manifested upon the surface. The argument that "some chancres will not heal without the employment of mercury," is not valid in establish-

ing that it should always be used; since many chancres cicatrize without any treatment. It is not because these are chancres that they do not heal: but because of some peculiarity of habit. Though mercury would not be recommended in primary syphilis, it is an agent of great potency in secondary lesions, and unless specially contraindicated, should never be omitted: but salivation should be avoided, as all the beneficial effects of the drug may be obtained without overloading the system with it. The particular form of mercury to be employed can be ascertained only on trial: one preparation being most

beneficial in some cases than in others, and sometimes it is found beneficial to combine several forms. Fumigations and inunction with mercurials are sometimes resorted to with good results. The form and administration of the drug are to be left to the discretion of the practitioner. When mercurials could not be used, the mineral acids have been employed with benefit. Next to mercury, the iodine compounds rank: the iodide of potassium is the best. These, preparations however, are more beneficial in the tertiary stage of the disease.

Tertiary syphilis can scarcely be a moments consideration, and the

Fakes will be brought to a close. It is not always tertiary as respects time; for it sometimes occurs without being preceded by any secondary lesions. In the majority of cases however it is preceded by the secondary form. Tage and flitting pains, extensive ulceration, periostea nodes and sometimes caries of the bones are the conditions in tertiary syphilis. The bones of the cranium are most frequently carious. I have seen in the University Museum a beautiful specimen in which the left parietal bone was almost entirely destroyed by syphilitic caries, and the other bones of the head were more or less diseased.

In the treatment of this condition, mercury is not an available remedy: the iodine compounds hold the first rank. Hygienic regulations are to be strictly enforced in this as in all the forms of syphilis.

I have Gentlemen, given you a brief and very imperfect resumé of a disease which demands the careful attention of every physician — not only because of the terrible manifestations in itself: but it transmits to succeeding generations some of the most distressing maladies to which man is heir.

In criticizing this paper I must beg you to bear in mind

that its author is a mere tyro in Medicine and that there are necessarily many deficiencies which in time may in a measure be supplied.

I am Gentlemen, with much respect, your appreciative friend.

Geo. Wythe Cooke

January. 1859

AN

Inaugural Dissertation

ON

Scarlatina:

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Charles B. Berlin

of

Maryland.

Session of 1868 & 1869

Scarlatina.

This disease belongs to the exanthematous or eruptive class of fevers and has received its name from the color of its eruption.

It is a disease remarkable for the great diversity which it presents in different cases as regards symptoms and fatality.

The varieties of Scarlatina, which are but modifications in degree of one typical affection, are four in number, viz:

Scarlatina Simplex. Scarlatina Maligna

Scarlatina Anginosa, Scarlatina sine Eruptione.

This disease presents no special Anatomical Characters save that of the eruption and affection of the Throat. w. p other lesions

found after death are due to complications though some authors go to show the frequent occurrence of a condition of the mucous memorane of the stomach and intestines analagous to that of the cutaneous surface.

Scarletina Simplex commences after a period of incubation which lasts from four to six days - with a feeling of languor and lapitude, with pain in the head, in the back, and in the limbs. Upon breaking out of the efflorescence, the pulse is quick, but feeble, the eyes are red and humid; the tongue covered in the middle with white mucus studded with red papillae and red along the edges

The tonsils are inflamed and enlarged, and the palate and pharynx red. Often there is dry cough, a troublesome itching sensation of the skin, together with swelling of hands and feet. The eruption usually appears on the second day; first upon the neck face and chest in form of numerous red points which become aggregated into patches of irregular form and size. This eruption is of very bright red color and most distinct about the loins and flexures of the joints. By the third day, the rash has extended to the trunk of the body and upper extremities, also to the mucous membrane of the eyes, nose

mouth, pharynx and air passages; and by the fourth day, to the lower extremities. The efflorescence attains its most vivid redness upon the evening of the third or fourth day after its commencement. Dr. Howard states that most generally the disease makes its appearance at night. The decline of Scarlatina commences on the fifth day from the eruption. The redness disappearing from those parts first, where it first appeared and by the seventh day has nearly entirely passed away. On the eighth and ninth days the desquamation of the epidermis has become general and, in many parts

laminae of considerable size are thrown off.

In this disease, the urine, at the commence-ment, while there is considerable fever, is of a dark deep red color, and possesses all the properties of inflammatory urine. Albumen has been found quite frequently in the urine during the period of desquamation, but not as a necessary consequence. Dropsy may also supervene without the presence of albumen. Examination of the urine should be made frequently with both nitric acid and heat in order that we may be prepared to combat with the many changes which take place and so often are forerunners of the more

dangerous form.—

Scarlatina Anginosa is ushered in with more violent symptoms than the preceding. The violence of the disease falls principally upon the throat. There is a sense of constriction about the throat, and great stiffness of the muscles of the neck and, on the fauces palate, uvula and tonsils are red and swollen and surfaces are covered with an exudation of coagulable lymph. deglutition becomes painful and difficult. breath very fetid an accumulation of sordes upon the teeth respiration very much interfered with and not infrequently the ulcerative inflammation may extend through the

Eustachian tubes to the tympanum, and destroy the auditory apparatus so as to cause permanent deafness. The local affection is thus rapidly progressing. In the meantime the constitutional symptoms are indicative of very serious and dangerous disturbance. Sometimes seldom however the inflammation extends to the larynx and bronchial tubes. The eyes may become involved. Several cases are reported by Dr. Howard in which there was total destruction of both eyes. The submaxillary and lymphatic glands of the neck become enlarged and inflamed. There have been recorded in which suppuration has

taken place, constitutional have been called Scarlatinous tubers. Suppuration of the glands of the neck may occur early in the disease or on the other hand they may be developed during the stage of desquamation. Gangrene and ulceration of the throat are very serious.

Sometimes the eruption in this form of the disease is very slight and again it has been found to be very severe. Poisoning is liable to occur in consequence of these & of pharyngitis or oedema of the glottis. The severity of the throat affection may be sufficient to cause fatal result. Albuminuria is more apt to occur in

This form of the disease - other complications than those which have been mentioned sometimes occur, but seldom -

Scarlatina Maligna - is a very greatly aggravated form of Scarlatina Anginosa and designates an overwhelming toxaemic impression of the morbid cause of the disease, occurring in persons of debilitated constitution, most commonly making its appearance in the wider months and in damp, unhealthy and ill ventilated situations - Sometimes it makes its appearance sporadically, whilst at other times it invades suddenly and unexpectedly during the progress of a scarlatina

simplex or anginosa. The chief characteristics of this great, to be dreaded form of Scarlatina are the sometimes sudden prostration of the whole nervous system, the great cerebral trouble being added to the affection of the fauces and skin. There is great irritability & restlessness, accompanied by low muttering delirium. The pulse is irregular and scarcely perceptible. The eyes look red and swollen. There is an acrid secretion from the nose which being wiped away causes diarrhoea. The lips, the teeth and the tongue are covered by a dark sordes. After the tongue and bowels are

deeply ulcerated and covered with slough. Abscesses are often found in the cellular tissue of the neck. The respiration is greatly impeded, quick and rattling. The eruption in this form of the disease is late in making its appearance and often the patient succumbs before any appearance of eruption takes place.

Dr. Donaldson several days since narrated to me circumstances of a similar character occurring in his private practice, the patient yielding to its poisonous influence without a rash whatever, in the short space of forty eight hours. The duration of the rash

is equally uncertain with the period of invasion. Dr. Sims states that in some instances the rash suddenly disappears a few hours after it has formed, and comes out again after the expiration of a week continuing two or three days; in one case numerous patches of it appeared a third time on the seventh day from the second eruption, then remained for two days.

Scarlatina Maligna is a disease of such extreme danger that only patients of very vigorous constitution survive it. However, if the seventh day be passed great hope may be entertained

Scarlatina sine Eruptione is a very mild form of disease some few cases have been occasionally observed, fever and anginia being present but no perceptible efflorescence – This form occurs in a secondary attack before the patient has become completely re established. Dr. Howard states that no case of death from second attack of Scarlatina has been recorded, and I feel well assured that if the book contained a single case it would not have escaped his inscrutable glances

Having hurriedly run over the different forms of Scarlatina and the most prominent symptoms of the same

I will now turn my attention to That which has made life burdensome to many who have survived the disease properly:

The Sequelae - The one most frequently occurring is Albuminuria with general Dropsy. This sequelae usually supervenes between the twelfth and twentieth day and sometimes as early as the Sixth day. It is referable to the Tissue of inflammation to the structure of the kidney and is indicated by swelling of the face and lower extremities when we have a copious quantity. Shortly after fission containing urea takes place in the serous cavities. The urine is scanty & frequently

blood. Dr. McSherry exhibited a specimen of Urine, containing blood and epithelial casts, as passed by one of his patients in private practice. Pleuritis, pericarditis and acute rheumatism are occasionally sequel as well as concomitants of scarlet fever. Chorea is also reckoned among the occasional sequelæ. The communicability of Scarlet fever seems to be established by the strongest proof and it is possible that its causation always involves infection. The following example is given by the late Prof. B. R. Palmer. A family living several miles from Stockbridge Mt. in an obscure part of the County and isolated

but a single exception. The well & children of family have free & in low, also the children distributed & all were checked in the family of the sick & left home all the children had in succession scarlet & the children of the neighbors contracted the children & other low families died from this disease.

Diagnosis. The especial diagnostic characters of Scarlet fever are, first, the decided & acute eruption of the fauces, secondly, the early appearance and rapid extension of the eruption, and thirdly, the bright red & defined character of the rash. From measles it

is known by the eruption making its appearance upon the second day with Catarrhal symptoms and with Bronchitis, it is distinguished by the fever & sore throat & by the rash in the latter being in irregular blotches, & not confluent like that of the true or scarlet fever.

Prognosis. The prognosis of scarlet fever will be much influenced by the nature of the prevailing epidemic. It sometimes invades with such overwhelming rapidity as to destroy life before any pathological changes can be effected. Death is then is directly by the change of the blood equa-

larly through its course. Should delirium supervene, as it frequently does in children, then the prognosis is unfavorable. If sudden fading of the eruption is also a symptom of great danger. The danger of Scarlatina is greatly increased by confinement. Pregnancy adds to the danger, results in miscarriage frequently.

Treatment. The simple form, sans hydrothorax, is fatal only through the officiousness of the doctor and requires no treatment but good confinement to the house for several weeks after the disappearance of the disease, have dry feet, warm clothing. Should the throat attain

tion to the bowels - Dr. Chew in his lectures upon Belladona strongly recommends its use in this disease as a prophylactic many authors however expressing very little confidence in its virtues. Bleeding and active purgation are not indicated in Scarlatina. Dr. Howard recommends the free use of Opium, & Alum as an emetic in case the stomach be over loaded, and after its action Magnesia may be given as a laxative, hurrying beyond that of clearing out the bowels being prohibited. The Nitrate of Silver Sponging the surface with vinegar and water or glycerine and cream. In the

Acquires form a gargle of chlorate of potash. Heat to the throat and ice internally are likely. Blisters are particularly injurious because of their acting as an additional irritant. The tincture of iodine is not a few to. some extent serious, and is an intolerable remedy. Often ulcerations of the non-tarsus have, when you should resort to injections of warm water or add sufficient quantity of Permanganate of potash to impregnate the water may be used. Quinine is a valuable medicine so long as the nervous system is normal. In the more malignant cases have the feet in warm water & a hot poultice to the head

Should the pulse grow weak then stimulate
The acetic acid treatment is strongly lau-
ded by some practitioners as also that
of Car. of Ammonia. In no im-
portant thing is be lacked a free in
this disease is in the language of
Dr Howard, Dyspnea -

Should dropsy make its appearance
The same remedies should be resorted
to as would be indicated in dropsies
resulting from other causes and
among the most valuable effective
are, the hot air bath the free
use of digitalis and Iron and
Iron, Juice fine hot and warm

require the use of the lancet –

AN

Inaugural Dissertation

ON

Narcotics

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

E. W. Crampton

of

Md.

Session of 1867.

The strongest moral which encircles the brow of the young man in the noble Physician is that which enables him to dispel the sufferings of mortal man, and kindle up the glowing flame of friendship in the hearts of those over whom aching pains he has diffused the soothing and salutary effects of his grateful balm. The Physician who has been busy for years in

the work of his noble profession
and who, if faithful to himself
must often examine and review
the road over which he has trav-
eled and will observe, in the
far distant future, when he
has been crowned with the lau-
rels of experience, the soothing
and heavenly effects of sarcas-
ics: and it will rekindle the
flame of pensive memory
and cause him to traverse
again the wide spread fields

of the past, upon which he sees through the distance of time portrayed in gorgeous tint and breathing love. The errors he has committed efface, as he gazes through the feelings of departed years with the fair, brightest joys hinted with his saddest sorrows. Such must evidently be the case when with feelings of mingled pride and joy he witnesses the effect of opinions his favorite Prop upon

two different patients. In the one perhaps a deep and tranquil sleep ensues. pain is relieved. disease is checked. and the patient is on the road to recovery. But what of the other! alas how different a scene is presented. Too well has it done its work. the unfortunate victim sleeps to wake no more. and his spirit takes its flight to the unseen world. "Surely there is no one without an

earnest and adequate preparation
is done or work in a calling
like this. so copious of good if
rightly used. so full of peril to
oneself and to society if adminis-
tered ignorantly or unfaithfully."! There is perhaps no
other field in the whole range
of medicine which offers a
more inviting feast for the mind
of a diligent and aspiring
student than that of narcotics. And from none have

greater good, more lasting benefits were in for the advancement of the cause of medicine, sprung. Materia Medica teaches us, no medicines whose praises can be more highly extolled, nor as we find them, any less used than in cases of destruction, when administered by an unskilful hand. As it is impossible for any one in the first instance to foretell with even the slightest degree of precision

what we can be the effects of any medicine by any other means, than that of direct experiment. I must be content to assume — the views of others, who have written upon this subject. Narcotics then may be defined to be medicines which at first produce some little excitement of the nervous system, in appropriate doses diminish nervous excitability and produce sleep, and in excessive doses [illegible]

This definition, though subject to criticism, is one which we may employ; because if it does not set forth every phenomenon in the action of a narcotic, at the same time it conveys to the mind nothing erroneous; and for this reason it may be accepted, till the further advancement of knowledge can suggest one more conclusive. It has been a mooted question and has exciting qui

of inquiry as to the manner in which narcotics produce their constitutional effects. Very many different theories have been advanced, to explain the mystery and facts have been adduced to support them all.

Whether they act upon the nerves distributed to the mucous membrane of the stomach and the impression conveyed from thence along the trunks of the nerves to the great nervous

centers, or whether they do not enter into the blood vessels, and make an impression on the ~~vessels~~ nerves distributed to the inner coats of the vessels, or whether they must not in every case enter the current of the circulation, and by this channel be conveyed to the great nervous centres. is a question which has engaged the attention of the medical profession for some time past, and even now there are many who will not be reconciled to the most

tenable explanation of this seeming mystery. How, who place the first mode of action, adduce as an argument in support of them, the great rapidity with which certain narcotic agents make known their effects. But recent physiological experiments have demonstrated this theory to be invalid, for it is now known that the whole round of the circulation can be accomplished in less than the one hundred of a minute, and it is hardly prob-

able that any one of the reports under consideration can affect the system in a time much shorter than this. As to the second mode of action — by an impression made on the nervous distribution to the inner coats of the blood vessels. It seems to be decidedly probable, as tends to demand a moment's consideration — hence I will pass that by with no further comment. At the present day, however, a very large majority

of the medical profession are of the opinion that the current of the circulation is the means by which the narcotic effect is disseminated, that is to say conveyed to the nervous centres. This is conclusively shown by numerous experiments on the lower orders of animals, some of which it may be well to mention. Magendie has shown that all the tissues in the leg of an animal may be severed except the principal vessels and nerves. If now the

mouth compress the vessels and introduce some poison into the extremity of the limb. no effects whatever were apparent but just as soon as pressure was taken off the poisonous effects were immediately manifest and thus fully demonstrating the point in question. We also know of cases where a child at the breast has been poisoned by the Mother taking a dose of opium. We can also detect it in the breast

The pill and liquid preparations of opium act much more speedily than the solid form. Morphia approves the same thing. Finally if applied externally to a nerve where they cannot be absorbed they produce no effect whatever on the brain. Moreover in cases of poisoning by opium even when there has been no vomiting nor the presence in the stomach, we say then they are absorbed. Having spoken of

the manner in which Narcotics exert their constitutional effects. it would be well in the next place to enquire. what — the effects of Narcotics on the system? What train of symptoms do we observe. when an appropriation of a narcotic has been administered? or we may say any dose. however large or small. As a matter of course the different symptoms presented will vary according to the

large or small quantity of the drug is used.

Perhaps it would be well in order fully to elucidate this portion of the subject to confine the attention exclusively to Opium which is the most important agent of the class under consideration, and whose Effects and actions are for the most part the same as those of Narcotics generally.

Upon the administration of

a full dose of opium. result is
accordingly at first appreciable. some
only a slight feeling of warmth
in the stomach. this lasts only
a short time. and its intensity
is measured by the strength of the
preparation. Next a slight feeling
of fullness is manifest in
the head. then a little nervous ex-
cite-ment. which is followed by a
period of most delicious ease &
comfort. It invests the drooping
spirits of those who have a big of

sorrow and grief. Often kindles up a glowing flame of love and emulation. Exalts the whole moral nature of man, and causes a spirit of friendship to pervade the mind of the happy subject: and inciting by noble motives he feels a desire to do great and noble things. Not like the stinging effects of Alcohol. It expands the mental and intellectual faculties to a higher degree than is consistent with the ordinary state of the mind

It awakens the slumbering fire in of the poet. heightens his powers of imagination. and envelopes him in that blissful cloud of ease and comfort which enables him more easily to revel in the Muse and revel in the domain of fancy. Along with this mental and moral elevation. muscular energy is also increased. and the hardships of life are borne with much less fatigue. After a variable length of time these pleasant feelings

subside, and then the dose being repeated deep and refreshing sleep ensues. If the dose is not sufficiently large, the patient often lays awake for hours. The sleep, if there be any, is not at all refreshing, and the patient is troubled with all kinds of unusual illusions and vague and horrid dreams. When such is the case, the dose should be repeated till the desired effect is produced. The sensibility is diminished to a certain

degree. the special senses are also involved, but perhaps only under the influence of large doses. finally we have stupor, which is the result of opium in excess in doses. the patient lies in a sort of coma or condition. the pupils are contracted. the respiration and the pulse slow and feeble. such is a state of narcotic poisoning, and unless the proper remedies be employed, will in soon close the scene. the frequency, force and fullness of the

pulse is unaffected by any marked in the first stage of the action of opium. A slight fullness of vessels and redness is also produced. This lasts for a short time returns to florid hue, and generally during the stage of excitement gives a bright color to the complexion. So long as the pulse increases the respirations increase proportionally, and vice versa. Consequently after the stage of excitement is over, and the pulse begins to approach the normal standard or even below it

the respirations at once decrease in the same ratio, the cutaneous circulation becomes [illegible] it to assume a darker [illegible] and gives a venous tint to the skin especially the face and prominences.

A great revolution has taken place recently in respect to the use of opium in acute inflammations. It being an active stimulant was used very cautiously under the apprehension that such being the case its influence upon

the local disease must be unfavorable. But clinical experience and sound pathological views have demonstrated the fact that it is a very excellent remedy in the treatment of inflammatory affections wherever situated. It is valuable, not only as a palliative but as a curative remedy. Its palliative effect of course is apparent to any one. and we can also to some extent explain its curative influence. By relieving pain it

produces or rather causes the afflux of blood to the part to be diminished. for we know that pain alone is quite sufficient to produce a determination of blood to a part. Again inflammations occasion more or less constitutional disturbance which is readily corrected by the use of opium, thus also placing the system in a condition by which it is better able to tolerate the local affection. In inflammations, tetanus ensues not because of the injury

done to the inflamed part: but because the vital powers are exhausted and are rendered inadequate to support the progress of the disease.

Opium exercises a very decided influence upon the nervous. His correct mode of action however in this direction appears to be vague and uncertain. It is not entered into any detail on this point: But remembering & bearing the broad and general rule laid down by the distinguished Professor

of this subject in the school where the principles of Medicine were fixed being men viz: that Opium ~~[illegible]~~ diminishes every secretion except the perspiration. I am content to await the result of practical experience whereby to understand the action on each secretion in particular. I will only remark that its effects on the secretions of the Alimentary Canal is very marked and decided, and Opium is, perhaps, the best remedy known for Diarrhoea, and other diseases

of a similar type.

Another very important use of opium can be anticipated. Viz! in pneumonia & esp. when this is often an essential step in the treatment of many diseases. But circumstances must always be taken into consideration for instance, it must be withheld if we see that it will counteract the effect of some other medicine previously administered. How this is of vital importance sometimes in practice. for instance a person

we have a patient, and we wish to produce a discharge from his bowels. of course we give a purgative to exit the reservoir. Now it is very evident that it would be unwise practice to give an opiate: which we know will produce an effect directly opposite to that of a purgative. one would counteract the effect of the other. both would be useless in the system. And it were better that the unhappy patient had taken nothing at all. There is scarcely a disease

which the physician is called upon to treat. When pain is not a conspicuous and troublesome symptom to relieve which is his obvious duty. Which as a general rule can be more speedily and efficiently accomplished by opium than any other narcotic drug. There are two different kinds of pain. Nervous and inflammatory and it is highly important that we should discriminate between these in practice. Nervous pain is, for the most part,

superficial, inflammatory, flux-
lers relief generally. Nervous pain
is widely spread, often following the
whole course of the nerve. Inflammato-
ry is confined to a circumscribed
space. Nervous pain is not constant
inflammatory is. Nervous pain
does not injure the organism, which
is not generally the case in inflammatory
Narcotics are a source of relief
for nervous pain. but in pain due
to inflammation they only play a
secondary part in the treatment. And

they must be ~~often~~ instituted with circumspection, not withstanding their great efficacy in inflammatory cases. In order to bring out this [illegible] clearly, suppose - for instance - we have a patient laboring under an inflammation of some internal organ. Now in such a case, pain is a very important symptom and one by which we are often more acquainted with the nature and the progress of the [illegible] and it must be evident that we [illegible] to benefit in the end, [illegible]

m. of the use of opiates, unless the patient insensible to the effect. The importance of this cannot be too forcibly impressed upon the mind of the young practitioner for he above all things is liable to make this mistake that is of not paying strict attention to the nature of the disease, before he applies his remedies, or in other words he should not treat a single symptom in such a manner, that would produce an unfavorable change in the whole character of the disease. Opiates play an

important part in the treatment of spasms of the inspiratory muscles, and also a kind of spasm attended with great pain, usually denominated Croup. Have been used with great benefit in the treatment of spasmodic asthma. The nervous element of this affection often yields very promptly to the opiate treatment, but as they tend directly to diminish the bronchial secretion, they must be administered with circumspection.

In the treatment of this. From
we have no better remedy in the whole
Materia Medica, than Opium. And
there is scarcely a disease which we
are called upon to treat, where a
single drug exerts such happy and
beneficial results. This disease
seems to depend on a loss of
the proper stimulus to carry on
the functions of the brain. or
perhaps, more properly, a sudden
withdrawal of the stimulus, which the
miserable subjects were accustomed to

But however this may be, the great indication in the treatment seems to be the production of rest & sleep. and it is quite obvious that no other single agent will accomplish this result as speedily and as effectually as opium

A most important fact for the operation of Opium in diseases below the diaphragm. is its power. Depressing bodily exhaustion & indigestible food, passage of gall stones or of Calculi;

In former times Opiates were considerably used in Malarious Fevers. it was taught that they possessed marked Anti-periodic properties. at the present day however. we do not believe them to possess any such virtues. Nevertheless Experience has abundantly proven that they are of immense value in the treatment of Sub-Mittent Fevers. given in full doses. just before the paroxysm comes on. not that they will prevent the paroxysm

or prevent its recurrence. but will mitigate its violence in a marked degree. Many other affections might be enumerated, in the treatment of which Opiates play an important part. but the scope of this field effort will not permit of their consideration. And for the same reason I refrain from speaking of them in reference to Surgical diseases.

In conclusion remember say that there is no class of Medicine which present so

many exceptions in their effects on different persons as do Narcotics, now whose administration is more modified by circumstances, for example age of the patient, idiosyncrasies of certain persons, and their former use, and the peculiar susceptibility of some persons. The two tonics are precisely alike in every respect. One is often an antidote for another, as Belladonna for Opium, and the same one in different patients will often

produce diametrically opposite results. Hence the great importance of being extremely careful and reserved in their administration. For whilst they, like many other medicines, are most powerful for good, they are also often most powerful for evil, in cases where, when they seem to be most indicated. But if we meet with disappointment, in some cases this should not deter us from doing the same thing over

again if we feel assured that we were in the right. But too often is it the case that the Practitioner is insensible to his error until sad experience has taught him a lesson never to be forgotten and showed how by his folly many an immortal soul has been sent to meet its Maker

A
Dissertation
upon the
Effects
of
Bromide of Potassium
on the
Human System
by
W. J. Stirman
of
Hillsboro, Md.
1869.

To My Preceptor,

J. T. Holland M.D.

In grateful remembrance of his professional precepts and examples and as a memorial of my esteem and friendship this little treatise is respectfully and affectionately dedicated by the,

Author.

To the Faculty of
The University of Maryland.
Gentlemen:

In presenting the following inaugural for your consideration we do not congratulate ourselves that it will meet with your entire approval but believe we at least that it has been prepared without our knowing the opinions of any of you on the subject, we hope it will be long ere a task upon you again devolves to beg your indulgence for its many imperfections.

Respectfully,
H. A. Stone.

Rutland, Vt.
Oct. 3rd 1869

Effects of Bromide of Potassium on the Human system.

In regard to its subject not a little difference of opinion exists among the most skilled to observers. Bromide of potassium is a mild diuretic agent, and was formerly much used as an alterative and deobstruent and supposed to have effects analogous to the different preparations of iodine, or equally efficacious, but the results of the most recent investigations for the salt a far more useful and extended sphere of action. It has become

of the opium almost as well to the opium itself as combining it some portion of the cerebro-spinal nervous system, yet there are also have had the most extensive in its use in the prior opinion as to what function is specially affected by it. Thus, Dr Burr thinks, it effects in lessening what is popularly called that popular is in its "infant stages," Dr Carpenter Drewry, "has been led to the conclusion that it bears its directly as a sedative to the medulla oblongata," W. Salado states its primary action is upon the spinal cord. Dr Bill after conducting

a series of experiments extending over a period of eight years, [illegible] "[illegible] to suggest that bronchial [illegible] in its legitimate action is [illegible] [illegible] [illegible] of the mucous membranes and a depression of their action," [illegible] also states as the results of laser-puncture that it allays and lightens the pleurisy and of the pneumonia. Fresenius (Dr. Fly's teacher) on the [illegible] pneumonia, "[illegible] the hearts action [illegible] of its beats, so that [illegible] as low as fifty." (per minute.)

Italic remarks are used for

the also contributes to show that they are the exact language of the Bible quoted and that we have not to interpret the language of inspiration to a literal meaning but when we come to a case, it will be seen that each expression stands on a different footing, to avoid misapprehension,

Brain — [illegible]

[illegible] Brain

Spinal Cord — Medulla

Peripheral Nerves — Nerves

Heart — [illegible]

[illegible] all together use of the

Cerebro-Spinal Nervous System and

Sympathetic respectively of

action. Each is most sanguine and we doubt not equally honest in the belief that he has discovered the truth in the matter.

Now what do all these different results prove? Why! if they prove anything at all they prove that the salt is a universal sedative to the nervous system, and that the above experimenters "all are right and all are wrong" right, just so far as their observations extend, but wrong in supposing that they have discovered the ultimate results.

We think very much is to be allowed for peculiarities in the

tions of these great men, but let us examine for a moment some of the circumstances under which they arrived at their conclusions. The above mentioned experiments were performed either,

I Upon the healthy human organism

II Upon the diseased human organism or

III Upon the lower animals.

Those performed upon the healthy human organism must have been confined to one subject, or repeated on one man. If on the one the risk of idiosyncrasy is encountered, if repeated upon a number the difficulty of controlling the other agents

to diet, but it is insufficient.

It is to be performed upon the diseased organs, 1st the same allowance is to be made for idiots, as regard difficult in controlling habits; diet &c as in those upon the healthy. 2d if medicine is administered for the relief of disease situated in some portion of the system we may fail to observe what effect it has upon the remaining portion that is healthy, which should be something so remarkable in the latter as to call our attention to it; and even then it would be difficult to discriminate between

such results and those changes which are more evidence of the disease under treatment, 3rd medicines of this class (sedatives) and their opposites (stimulants) often have the power of modifying the disordered functions without having to exercise any effect upon the remainder of the system. I remember seeing a man to whom, a severe attack of colic, 12 grains of Opium or its equivalent, had been administered in a little over three hours with no other apparent effect than that of relieving the pains; this it had in most happy effect, but if the op-

fects of opium and its preparations had been observed only in solid the profession might have been led to the conclusion that its special seat of action was the gastro-intestinal canal; and similar errors would no doubt, have resulted from observing its effects in relieving disease situated in other portions of the system. Therefore the therapeutic and physiological effects of medicine are not identical.

III In these performed experiments on the lower animals we think the sources of fallacy are sufficiently

made numerous, for say 100,
each life of animals has its
own therapeutics peculiar to itself,
thus; belladonna and stramonium
are not poisonous to goats and
rabbits, Oustie asserts that, morphia
acts on cats like strychnia, Newton
Hill, knows from experience, that
the antelope of the plains cannot
largely of tobacco, it is a mere
theory, to predicate the therapeutic
action on man of a drug from
even its well known and clearly
defined action on the lower an-
imals".

Therefore our own conclusions

in regard to the action of the medicine may be summed up as follows; that bromide of potassium is fully absorbed and distributed, decidedly sedative to the whole cerebro-spinal nervous system, and perhaps specially anæsthetic to the genito urinary organs and the pharynx, that it has the property of allaying irritability of these parts we doubt not, but we think this last result, may be explained upon the principle of its general sedative action.

"The End".

AN

Inaugural Dissertation

ON

Delirium Tremens.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Charles J. Jenkins,

of

Talbot County, Maryland.

Session of 1865

Delirium Tremens.

The diseases of the [illegible] not known to man, are more justly urgent in their demands for our consideration, than the one we propose making the subject of this dissertation.

The intoxicating liquor, [illegible] as a drink, we know to be the one great cause of this affection, and therefore, not like many other diseases, is Delirium Tremens to be found in certain men or less extended distinctly, and at certain periods or seasons, but as unlimited as the field in which the cause operates, just so universally do we expect to observe the disease. In making this, the frequency of its occurrence among all

classes of men together with the total obscurity that envelopes all its pathological relations, must render it doubly interesting to every true physician.

The various morbid effects of the abuse of alcohol are known under the general head of alcoholismus, which indirectly favours the production of very many diseases, by lessening the power of the economy to resist their advances, as well as, entering directly into the causation of very many other serious inbred in character.

Intoxication is the term applied to that condition of the blood produced by ingestion of the large quantities of

the agent and differs very materially from the disease under consideration, which stands prominently among the effects of its continued use, and the one perhaps, of all, most frequently drawing the attention of the medical man.

Delirium Tremens is purely a nervous affection and is most frequently caused by the sudden withdrawal of alcoholic stimulation after the long continuance, but may be a direct consequence of the protracted action of alcohol upon the brain. We therefore find it most frequently in persons, who voluntarily allow the abandonment of their intemperate habits, or

those who are unable, from some cause, to obtain the requisite amount to satisfy their craving appetite.

Some authors state that the disease may be induced by long continued overtaxing of the nervous system, and although we are willing to accept this as producing of a few cases, there is no doubt, that by far the greater number of cases are to be found among men addicted to the excessive use of alcohol, in some one of its various forms. Hence it is most common name among persons out of the profession – Mania a potu.

For some unexplained reason it is known to be more frequent among

men than women, alike subjected to the known causes. This is directly opposed to what we would naturally anticipate, taking into consideration the more sensitive character of the female constitution; nevertheless, all authorities agree that such is the case.

Formerly the prevalent opinion was, that Nostalgia Proper was produced by the malt liquor, but this idea is no longer held by medical men. I have witnessed one case in the University Hospital brought on by a drink of this character.

The patient stated that he had taken several glasses of the ale, the night before, and lost while under treatment the

coat of the stomach flow into it.

The peculiar nature of the complaint with the proper method of treating it was first brought out when in 1813 by Dr. Sutton of Greenwich in a little work he wrote on the subject. During the past few years many essays and papers have appeared in England, France and this country, where the disorder is very common.

The symptoms characterising an attack are generally well marked, and although we do not expect to find any case presenting the same features yet there are a few, which in nearly every case may be confidently looked for. Recollect says Mr. Watson that the strong features of

the complaint are sleeplessness; a busy but not angry, or violent, delirium; constant chattering; trembling of the hands, with an eager and fidgety employment of the same. To these are added other symptoms, which although they are not so calculated to strike the beholder, are of not less importance, inasmuch, as they helps to establish the diagnosis. The tongue is moist and clearing; the pulse is soft, though frequent, while the skin is perspiring and often bathed in sweat. This secretion is described as having a peculiarly offensive odor. The face is sometimes pale, while at other, it is flushed and red, with eyes bulfused.

The muscular tremor so frequently present in the affection, often affects the tongue and thereby causes noticeable difficulty in articulation &c. But of all the symptoms, the insomnia is the one most universally present, being almost pathognomonic when found associated with the delirium and in most mild cases seems to offer the only indication for treatment. I should have before stated that there is generally a disturbed mental depression, which marks the first stage of the disease, lasting from one to three days, known by the subjects of this terrible malady as the "Horrors".

In this stage the mental suffering is intense, and more frequently now, than at any other time, is the patient prompted to commit some act of violence against his life or person.

As the disease advances the derangement is characteristic, although presenting different forms in one, or another, case on account of the circumstances surrounding the patient. His eyes take on a stare or vacant look, while his whole countenance betokens fright, or his expression is wild and painful to behold. He imagines all sorts of things. Sicker, that some person, perhaps a friend, is desirous of doing him an injury, or frequently, that he

is beset by numberless animals or insects.
In fact, his fears are continually vacillating from one absurd thing to another. To all this, we usually have added, anorexia with constipation which last throughout the course of the disease, and offer sometimes troublesome symptoms for medication.
There is little, or no, pain experienced by the sufferer, who on being questioned, generally replies that there is nothing the matter with him.
The Diagnosis of Delirium Tremens is commonly easy and not fraught with much difficulty on account of the similarity of this, and other diseases.
The affection must literally be be

confounded with it, is encephalitis, but if careful note be taken of the delirium, (which is always a busy delirium), and of all the points of history in the case, together with the watchfulness so universally present in Delirium Tremens, the diagnosis may without difficulty be made out. Dr. Bence Jones also states that there is a deficiency of the phosphatic constituents of the urine, so generally present in the disease Encephalitis. In no case should the practitioner be easily satisfied with a diagnosis, since the treatment implying usually in inflammation of the brain would be decidedly injurious in a case of this kind.

It is authoritatively stated that bleeding, which is so frequently employed, when there is structural disease of the brain, is of itself, capable of producing the disease under consideration.

The prognosis is more or less favorable according to several circumstances. If it be the first attack, and the case presents no complications, the prognosis may be said to be almost always favorable. Those cases are more aggravated and serious in character which are produced by the extended employment of the drug, than those caused by the abrupt withdrawal of it. If there be any pathological lesion peculiar to the

disease it is, as yet, unknown. All that can be said concerning the morbid condition, is, that the prolonged action of the stimulant on the brain, induces a morbid condition of insomnia and delirium, unattended by inflammation.

Treatment. With this affliction, as with almost all others, the treatment from time to time undergoes various changes, in the hands of different practitioners, who hope to establish the many theories of their speculative minds.

At one time, we hear of what is called expectant treatment, giving only strong food, without the use of stimulants or opiates. Then we have the practice of giving tartar emetic

doses of digitalis, or by some preferring the internal administration of Chloroform in doses of one or two drachms – all of which, perhaps proving beneficial in the hands of their appropriate advocates in a certain number of cases, and under peculiar circumstances. One is surprised when considering the very great frequency of the complaint, that it is yet the subject of such diversity of opinion as regards its proper treatment.

At one time bleeding was actually employed, but is rarely, if ever, indulged in at the present day, and as long as the war which is now so zealously being waged against this

practice shall continue, we may have little fear for the bad effects of it, in this, or any other disease.
The insomnia is known to be the most troublesome feature of all cases, and I therefore think, that the force of all remedies should be directed against this symptom of the ailment in every stage of its course; although due care should be taken to allay the gastric derangement. For the production of sleep, Opium, of all drugs, held the greatest favour and for the longest time. Of late, Bromide of Potassium, in many cases supersedes the employment of this agent.

I have myself witnessed the happiest effects of this drug, in the treatment of Delirium Tremens in cases occurring at the Hospital attached to this College. Besides drugs, there are many precautions advantageously employed in the care of such cases.

The patient should be carefully watched to prevent him from hurting himself, and be kept in a dark room, surrounded by every thing calculated to bring about the desired sleep. He should be allowed small portions of the agent producing the disease, and after carefully cleansing out his alimentary canal, should be fed much with beef tea, beef solution,

and easily assimilated. As regards complications, these should shape to some extent the course of the medication in each case, taking care to make every step taken in the treatment accord with both rational and scientific principles.

By Charles A. Dunkin,
Talbot County, Md

1869.

An,

Inaugural Dissertation

on

Cinchona,

Submitted to the Examination

of the

Provost, Regents, and Faculty

of Physic

of the University of Maryland

for the degree of

Doctor of Medicine By,

J. H. Downey of

Frederick County Maryland.

Spring 1869.

Cinchona, is the name applied to the Bark of different species of Cinchona (Natural order) Cinchonaceæ large tree which grow in the mountainous regions of the Western portion of South America - from the 19th of South Latitude to about the 10th of North Persons have tried to grow the tree in various parts of the world but as yet none have succeeded very well except in Southern India where

in the last few years the cultivation of several varieties have been undertaken very successfully - and valuable specimens of Red Bark nearly equal to that of South America have been sent to Europe -. There are three varieties of this Bark known as Cinchona Flava - Yellow bark called in commerce Calisaya. Cinchona Pallida - Pale Bark called in commerce Loja and Lima bark and Cinchona Rubra Red Bark which grows the Cinchona Succirubra. It is here in this country from the Nagaritot of

South America. It is obtained by stripping the trunks and branches of the tree during the dry season and is dried by exposure to the sun during which process it usually becomes quilled. The Yellow or Calisaya bark comes both in quilled and flat pieces the quills are from three or four inches to a foot in length and of variable thickness. They have a brown epidermis which possesses none of the medicinal properties of the bark — The flat pieces are taken from the larger branches and trunks and are usually destitute of epidermis or thick

less compact, bitter, and of less medicinal virtue — The Yellow bark is distinguished by its much more bitter taste its comparative freedom from astringency, its brownish yellow-orange color which is also lighter in powder and by containing more of the active principal Quinia and very little Cinchonia — The Pale bark comes in cylindrical, of various lengths sometimes simply convolute, sometimes double the best kinds are about the size of a goose quill The external surface is rough marked with fissures and of

a grayish color owing to adhering lichens.
The interior surface is of a cinnamon color
and the inner sort so [illegible], the color is
a Dark Brown. Taste moderately bitter, some
what astringent. Odor feeble but
rather aromatic. This bark contains
a larger proportion of the Principal
Cinchonia than of Quinia.
The Red Bark comes in large thick
flat pieces. sometimes also in quills
from a half to two inches in diameter
they are covered with a reddish brown
wrinkled epidermis beneath which is a

dark red brittle and compact layer the interior being woody and fibrous. The taste is bitter and astringent its odor not differing from the other barks, is under reddish. It contains about equal proportions of Quinia and Cinchonia.

Chemical constituents. Bark owes its activity to certain principles. The most important are two alkaloids called Quinia and Cinchonia. They are believed to exist in the bark chiefly in combination with Kinic acid. They are found in different and proportions in the different barks

Quinia being most abundant in the Yellow and Cinchonia in the Pale — two other valuable constituents are Quinidia and Cinchonidia they are found to a certain extent in all the barks but most abundant in the Pale and Carthagena. Others are lime acid Tannic acid coloring matter starch fatty matter lime &c.

Incompatibilities. The alkalies are their carbonates and the alkaline earths precipitate the alkaloids of Cinchona and Tannic acid forms with them insoluble

compound effect on the system.
Will just treat of the [illegible]
When it is given to healthy persons in
quantities not exceeding [illegible] per day
daily, in doses of half to a grain, it pro-
duces effects identical with those of
simple bitters, viz. [illegible]
effects may be experienced, but after
a short time the appetite is increased
and the food appears to be more
rapidly digested, the pulse becomes
fuller and stronger, the temperature
of the body is slightly elevated and

it appears as a pure tonic, from its
[illegible] to the tissues, [illegible] is
decided does it cease to be found to
act specially upon the brain and yet
produces decided effects upon that organ.
The quantity to be given, varies in dif-
ferent persons greatly, some possessing
an extraordinary susceptibility to its
smaller doses than those mentioned.
The most certain symptom is usually
ringing, singing, and buzzing noises
in the head, along with the sensations
partial deafness the noise is deep

the most characteristic effects. The
ovaries of the gravid tissue are
given as from heavily to slightly
the effect upon the central nervous
system and a lessened relative
influence upon the circulation pro-
duced, as evinced, by a diminution
of the force and frequency of the pulse
proportionate to the amount of the
salt used — There is more pertness or
sluggishness the individual often stagers
the hardness of hearing is not so frequent
by increase to positive deafness but

It also produces other effect it has been supposed by some to render the blood more fluid and to lessen its coagulability but more numerous experiments have gone to prove the fallacy of this argument. In the Urinary passages it occasionally produces irritation probably by its direct contact with the mucous membrane of these passages as it escapes with the Urine. Sometimes it irritates the Stomach considerably causing a sense of weight or oppression, flatu-

pains and nausea or vomiting. This is especially the case in [illegible] when the stomach is already irritated or strongly disposed to it. Sometimes acts upon the bowels causing griping pain and diarrhoea, the constitutional effects are the same in whatever way it enters the system whether given by the mouth, the Rectum or injected Hypodermically when applied to the skin denuded of its cuticle it produces so much irritation as materially to interfere with its

absorption, in relation to the tonic
the effects are essentially the same
as those of Quinia but on account
of the size of the dose to be given
it is not now much used, it
may not produce the same ir-
ritation of the stomach and bowels
as quinia, on account of the non
alkaloid principle contained
in it — it is usually given it
generally brings untoward effects
on the stomach, so that it is
difficult to obtain from it the

sedative and prostrating effects produced by excessive doses of Quinia

Cinchonia has been found to be nearly identical in its action with quinia except that it is about one third weaker requiring to be given in one third larger doses, the other principal are not much used so I will not refer to them at any length, Quinia appears not to differ from quinine in its operation on the system whether Physiologically or therapeutically

it is much more soluble in water than quinine.

Injurious effects often arise from quinia when given in excessive doses as for instance the unpleasant symptoms from congestion or over excitement of the brain among which a great degree of deafness is common. Generally the deafness subsides with the other phenomena in a period of a few hours or days but sometimes continues much longer and the hearing [illegible]

and incurable, Cases are on record in which death has occurred from inflammation of the brain, under the excessive use of quinia, and the danger arising from its use is the great secondary prostration from enormous doses in persons already feeble may possibly prove fatal. It is strange, however, considering the powerful effects often produced by comparatively moderate doses how far the quantity may be increased without fatal results. Dose

is mentioned by Dr Hood where a person believing himself to be attacked with pernicious fever took in a short time nearly ℥ii of quinia by the mouth and then symptoms of great prostration with loss of sight and hearing came on which he ascribed to the pernicious fever and hoped to counteract by a continuance of the enormous doses. in the course of nine or ten days he took additionally ℥v of the salt of Magnesia [illegible]

called in found him covered with
cold sweat, completely insensible
and, with difficult and sighing
respiration, profound stupor and
an expression of countenance like
that of drunkenness he was partially
aroused with much difficulty, so
as to give rational answers but
quickly became delirious and this
another is mentioned by Bigelow
in which about 3 x was taken
in a few days the patient lost
for a time [illegible]

speech and became as cold as a corpse, but nevertheless recovered. In all cases in which the salts of the Cinchona alkaloids have been given too largely, tannic acid or an astringent infusion should be administered internally, for though the tannate formed is not without effect on the system it is certainly less rapidly absorbed than the soluble salt. We now come to its therapeutical application.

The most important of the

employment of bark is one of the
refuges in the treatment of fevers of
a malarious origin. Its efficacy in
these diseases was first made known to
the world by the French Missionaries
in Peru, from whom it was called
French powder — the type of malarious
fever in which the powers of bark are
most strikingly displayed, is inter-
mittent; the non-malignant and
uncomplicated form of which it
rarely if ever fails to control. It may
be given in the cold stage of the ague

onset of the attack unless contraindicated by the presence of gastric irritability, which must be removed by an emetic or mercurial purge. Intermittent fever bark is scarcely less useful than in intermittents, and most physicians who practice in malarious districts, are concurring in recommending its exhibition in these fevers, as soon as it can be borne well by the stomach, without waiting for a remission, in the pernicious or congestive forms of intermittent and

remittent fevers, the early administration of large doses of bark or its preparation sulphate of quinia, in combination with stimulants, is imperatively demanded. As a prophylactic against malarious fever, the use of the preparation of bark is very efficacious. In the midst of typhus including that termed cerebro spinal meningitis, the salts of quinia in full doses constitute the only best treatment, in conjunction with stimulation and nourishment. In typhus fever, the declining stage of typhoid, the most

mant- exanthemata, gangrene, malignant erysipelas, carbuncle, extensive suppuration, the typhoid forms of disease generally, the hectic of phthisis, acute rheumatism, diarrhoea, dysentery, and cholera, and various disorders of the nervous system, as neuralgia, tetanus, underthose, tonic and its preparations are constantly employed. It is also much used as a stomachic and general tonic, but when gentle excitation exists, as in convalescence from continuous use of the simple bitters or in fevers, superficially, tonic or stimulating

an astringent and antiseptic. These
three are the principal forms of disease
in which bark and its preparations
are employed. The preparations are
first the Sulphate of quinia which
is administered in about gr xii daily
in doses of 1 & 2 gr — though more may
be given — the dose of bark in powder
is about ℥ss — then there is extract
dose ℥ss, Infusion, of yellow bark
dose ʒ x to ʒ x, fluid Extract, dose ℥ij
Tincture, dose ʒij to ℥ss Compound
or Huxham [illegible]

[illegible] Sycentric [illegible] [illegible]

[illegible] is [illegible]

Sulphate of Cinchonia is almost [illegible] [illegible]

you [illegible] that the Sulphate of quinia.

Gentlemen,

I lay this before you, as a tough, [illegible]

cuttle, state, and I beg you, to excuse all [illegible]

technical, and other [illegible], that may be [illegible]

giving as my excuse, that I was but

a Student, and have a great work yet

before me, unlearned.

Respectfully,

[illegible]

AN

Inaugural Dissertation

ON

Tetanus: Its nature and treatment

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

John F. Figgel
of
Maryland.

Session of 18[illegible]

Introduction.

Of the several systems identified with the human body, none can surpass in point of interest to the student of Medicine, that of the nerves. It presents to him, in its thorough consideration, a subject fruitful indeed, in thought and investigation. Aware of the peculiar properties with which the nervous system is endowed, and the controlling influences it exerts upon associate systems, he desires to know, naturally enough, all that science has revealed upon the subject of its mysterious action. General anatomy affords to the diligent student, complete information upon its structure and properties, while descriptive anatomy furnishes a view of its arrangement in the body. Physiology treats of its functions, and teaches that these can be neither physical or chemical in nature, as they do not correspond in their mode of operation, with any known phenomena belonging

to these two orders. That it is not an apparatus which acts for itself, but a <u>medium</u> of perfect kind, for the transmission of influences from one part to another. Beyond this, as regards understanding the mode by which impressions are conveyed, we cannot go. This yet remains unexplained, and will probably remain so, as do many other phenomena, the effects of which we are perfectly conversant with in every day intercourse with nature. The rapidity and accuracy with which impressions are conveyed, show the nerves to be possessed of most exquisite sensibility, and therefore, of delicate structure. Can it be strange then, that such complicated and sensitive machinery should be liable to derangement, or that its disorders be ranked among the most frequent and troublesome that affect our race? The Class of Neuroses, is recognized by the physician as comprising

within its limits, the most obstinate, violent, and dangerous diseases, against which he has to oppose the resources of his art. None more frequently resist his remedies or baffle his skill, than these. The disease chosen as the subject of the following pages belongs to this class.

Tetanus is an affection which has been endowed with singular interest to the Author, since commencing the prosecution of the Study of Medicine. Its frequent origin in causes apparently most trivial, the violence of its seizure; its intractability to treatment; the terrible sufferings entailed upon the patient; and in the majority of cases, when fully confirmed, its great fatality; all combined to attract his attention and impress him with the importance of understanding its correct pathology. In submitting this essay to the notice of the Faculty of Physic, of

the University of Maryland, he feels that its many imperfections will be kindly considered, even as its merits will be justly and impartially decided upon by them; and that however much it fails to reach the standard of a thesis in their estimation, yet the degree of effort made will partly, at least, compensate for the want of consummation.

Tetanus

The nature of Tetanus has always afforded a subject of ample scope for discussion in the Medical world. Many theories have been advanced from time to time upon the ratio Symptomatum and proximate cause of tetanic affections, that may be said to possess the property of skilful reasoning combined with a certain degree of probability but none have been of such character as fully to accord with all the phenomena attending their singular course. Discrepancies will appear in endeavoring to adapt these theories to the known characters of the disease. Obscurity yet prevails as to how a minute puncture of the skin, a contusion, laceration or incision, and exposure to cold with moisture, can produce a lesion of such dangerous kind. It is our design to introduce some of the theo

ries referred to, and accompany their notice with such remarks as may be suggested by their consideration.

Galen referred the seat of the disease to the spinal marrow, but left no theory as to the condition in which it was necessary for that part to be, to cause its production.

Willis, of England, and Hoffman of Saxony, who flourished in the 17th century, concurred in the opinion entertained by Galen, and supported the same by adducing the evidence furnished by post-mortem appearances, and the fact that the muscles supplied by spinal nerves, were almost exclusively affected. Hoffman, however — who has the merit of first turning the attention of practitioners to the morbid affections of the nervous system — went still further, and taught

that it consisted essentially in "violent contraction of the membranes surrounding the spinal marrow, and the nerves proceeding from it, which produced impetuous influx of the nervous fluid into the affected muscles." That "the convulsive irritation might be induced in two ways: either the membranes, being directly irritated, were convulsed themselves, and drew into consent other parts connected with them; or, some of these parts, being first spasmodically affected, communicate stricture to the spinal marrow, from which it extends by consent to other parts, between which there is no evident connection, unless through the medium of the brain." This doctrine, based evidently upon the Humoral pathology, needs no refutation, as its defects are sufficiently apparent. The fact that the membranes above mentioned are possessed of no contractile power, destroys this theory

at once.

The theories indulged in by Medical men upon the nature of Tetanus, since the time of Hoffman and up to a recent period, offer us but few essential points of difference (as far as known to the Author) from those already given.

We shall therefore, next notice the opinion of Dr Geo. B. Wood, of Philadelphia, upon the question, as expressed by him in his "Practice of Medicine." Dr Wood believes the disease to be undoubtedly seated in the spinal Marrow and Medulla oblongata. That the morbid action may extend also to the white substance of the brain. That the morbid action present, is not inflammatory as such condition seldom leads to such an excess of function, but rather induces the reverse. This principle being well illustrated by the fact, that one of the most common results of inflam-

mation within the spine is paralysis. He admits that inflammation of one part, may communicate an irritant action to another and sound part; and that tetanic spasms are sometimes really mingled with the other symptoms of Myelitis. But, in the occasional cases of tetanus, originating in inflammation within the spinal column, that the inflammation does not constitute the disease: it is merely a cause of it. In such cases the presence of the characteristic symptoms of the Myelitis or Spinal ~~Spinal~~ Meningitis revealing plainly their complication. He defines the infected state of the spinal and cerebral meninges, and the slightly infected appearance of the nervous substance exhibited by dissection, to be the result, not of inflammation, but of congestion. The latter he regards as the result, and not the cause of the disease, and alludes in support of this view, to its frequent absence in fatal cases.

Dr Wood's special theory is: "That the disease is a mere irritation of the spinal marrow, including the medulla oblongata, and possibly, to a certain extent, the white cerebral fibres. This irritation may be propagated from the injured extremities of the nerves, as in wounds; or from other sources of excessive excitement, as the intestinal mucous membrane in verminose affections; or it may originate in the spinal marrow itself through causes acting on that structure, such as cold or rheumatic influence. The irritation thus excited in the medullary columns, is extended to the muscles, and produces tetanic spasm, exactly as the same effect is caused by irritating the spine directly by running an iron wire into it, or by mechanical injury of one of the motor nerves proceeding from it. The vascular infection, without other marks of inflammation within the spinal canal, is the result of the

irritation, just as redness of the conjunctiva is produced by neuralgia of the eye. How it should happen that the nerves of the wounded part should remain apparently quiescent for some time, occasionally even till the wound has healed, is one of the mysteries of which so many remain unsolved in relation to nervous action. We may conjecturally say, that at one period of the wound, the requisite irritability of the spinal marrow which constitutes the predisposition, is not yet in existence, and is to become developed by the circumstances under which the patient may be placed. But, if this were true, it would only remove the difficulty a single step. It has been well ascertained that, though the spinal irritation may be set on foot by the local cause, it is afterwards capable of sustaining itself, and may continue even though the cause has quite ceased to operate."

Having concluded our notice of Dr. Wood's views, we shall next refer to those entertained by Demme. From laborious researches (the results of which were confirmed by Flechner and others) this gentleman ascertained the presence of new growths of connective tissue in the cord, in various fatal cases examined by him. Upon being convinced by observation of this fact, he appears to have arrived at the conclusion, that upon this pathological condition the disease essentially depends in all cases. As a natural sequence to this idea, he proposes to accord to Pot. Iod., the preference as a remedial agent. A course of treatment of so thoroughly unpractical a nature, as hardly to obtain the assent of the inexperienced practitioner.

Heiberg concludes that "Tetanus is not a nerve disorder, but an affection of the blood localizing itself in the muscles. This localization expresses itself by deposits in the Muscular

tissue, and metamorphosis of the same probably directly induced by altered or diminished innervation. The immediate result of this is shortening and stiffness of the muscles; the tetanic convulsions are consequently not spasms but contractures". The reflex spasms which he admits do occur are only accidental, and do not belong essentially to the disease. If this theory be correct, we ask why should this localization of a blood poison in the muscular system, be confined to a particular portion of the muscular structure? Or, why is not the whole muscular system similarly affected, when every portion is equally permeated by the noxious principle contained in the blood?

Richardson, Roser, Wells, Thomson and Betoli, regard tetanus as "the result of a poisonous matter formed in the blood, or absorbed into it from an unhealthy secretion of the wound. This acts like strychnia, setting up that peculiar irritable state

of the cord which is the essential condition of the phenomena, and without which the various slight excitants which produce the spasms would take no effect." They, with reason, urge the prime necessity of accounting for this condition of exalted polarity, which in their opinion cannot be explained upon the sole view of peripheral irritation. They argue in addition, that their theory gives an explanation of the idiopathic form, and of the occasional epidemic or endemic prevalence of the disease. The close resemblance of hydrophobia, a disease undoubtedly of toxic origin, and tetanus, is referred to by them to further substantiate their doctrine; as also the fact that division of the nerve proceeding from the seat of injury in traumatic tetanus has by no means proved as frequently successful as one would expect on the view of peripheral irritation being the sole and essential cause.

C. Handfield Jones in noticing this theory, says: "There is much in this theory to commend it, but until it is proved that any secretion of a wound can, on being inoculated, give rise to tetanus, it must remain a mere hypothesis. We have no example of any similar morbid production, setting up notable nerve disorder. In glanders and farcy, in malignant pustule, in pyæmia, in syphilitic and smallpox inoculation, and in the action of snake poison, the phenomena are much more those of disordered circulation and blood crasis than of nervous derangement. It is certainly extremely rare, if it ever happens that a foul ulcer, not the result of traumatic injury, becomes the cause of tetanus."

We would add in relation to the resemblance existing between hydrophobia and tetanus, that the idea of the latter being dependent upon any material poison would seem to

be disproved by the circumstance, that in the former affection, the presence of a poison is evidenced by the Vis Medicatrix Naturæ attempting to eliminate the poison through the agency of the Salivary glands (by largely increased secretion), while in tetanus no such effort is made.

C. Handfield Jones in his work on "Functional Nervous Disorders", concedes that the theory which assigns to local irritation the chief place in the causation of the disease has, especially if somewhat modified, much evidence in its favor. He quotes the testimony afforded by Mr. Poland's figures obtained from the records of Guy's Hospital, as being strongly in its favor. These show that in the institution mentioned, when wounds were made by a clean, sharp knife, tetanus occurred in the proportion of 1 case in 1364, while in those resulting from accidents and where the nerves were injured, the proportion was 1 in 55.

Clearly, to his mind, there must exist in all cases, a certain predisposition of the cord, before the spasmodic symptoms declare themselves. As a means of throwing some light upon this dark subject, he proposes to note some points of affinity between tetanus, and other nervous disorders. The well known fact that prolonged exposure to heat has a considerable influence in promoting the occurrence of tetanus, as also that it enfeebles the nervous system, and renders it more liable to a variety of derangements, is introduced. That exposure to wet and cold may give rise to tetanus, as also, according to Maisonneuve, it may be the proximate cause of Epilepsy, is likewise noticed by this author. The production of cramp by cold is a familiar fact, and one in which the question of poison cannot be entertained. Yet it is a minor tetanus. He argues that the supervention of tetanus upon exposure

to wet and cold, bears perfect analogy to the invasion of paralysis under similar circumstances, and, though the results of the spasmodic & paralytic affections differ widely in character, yet there is much to justify the view that both are varieties of deranged action of nerve cells. "Just as numbness and pain," he says, "which are certainly very different sensory disorders, are co-products of the cause giving rise to neuralgia, so it may be with spasm and paralysis. . . . .

"If prolonged action of our muscles causes fatigue, the same when one position is maintained for a long time causes cramp. These facts go to show that causes producing impairment of nerve power may give rise to spasm."

Dr Jones is inclined to the opinion, from the case quoted by Pflüger from Dieffenbach in which a tetanoid state of one arm, and general epileptic paroxysms, resulted from the

same traumatic irritation, and ceased with its removal; that in both these affections a morbid condition of a diathetic, rather than toxic character, is indicated. He thinks it worthy of consideration, that the muscular contractions in tetanus are accompanied with severe pain, the pain of cramp. That this shows of itself that they are very different from voluntary muscular contraction, which how forcible soever are never painful. He believes the association of pain approximates the nerve disorder to neuralgia.

We will now introduce some points contained in an interesting communication, which appeared in the "London Lancet" of Aug. 12th 1865, by Mr. J. Lockhart Clarke, and originally addressed to the Royal Medical and Chirurgical Society, upon the condition of the spinal cord in six cases of tetanus. In every one of these there was not only more

or less congestion of the bloodvessels, but there were also definite and frequently extensive, lesions of structure, such as have never yet been discovered. These lesions consisted of disintegrations of tissue in different stages of progress, from a state of mere softening to that of perfect fluidity, and were accompanied by certain exudations and extensive effusions of blood. They were found chiefly in the gray substance, which, moreover, was in many places strangely altered in shape — unsymmetrical on the opposite sides, or partially fused with the adjacent white column in a common softened mass. Although lesions of this kind existed, in one form or other, in every region of the cord, they were absent in some places; nor did they ever, for long together, maintain the same shape, size, or appearance, but were constantly & alternately increasing, diminishing or disap

pearing, at short but variable intervals. These lesions in tetanus are precisely similar in character to those which the author (Mr. Clarke) has discovered in the spinal cords of many ordinary cases of paralysis; and on comparing together the lesions and symptoms of both kinds of diseases, he finds good ground for the support of the following conclusions:

1st. That the lesions are either not present, or are present only in a slight degree, in those cases of tetanus which recover.

2nd. That they are not the effects of the great functional activity of the cord (manifested in the violent spasms) but are the effects of a morbid state of the bloodvessels.

3rd. That they are not alone the causes of the tetanic spasms.

4th. That the tetanic spasms depend on two separate causes-

firstly, on a morbidly excitable condition of the gray substance of the cord, induced by the hyperæmic and morbid state of its bloodvessels, propagated from the injured nerves and resulting in exudations and disintegrations of tissue; and, secondly, on irritation propagated and spread through the morbidly excitable cord from the same source – from the periphery, by the diseased nerves.

Mr. C. stated that the observations described in the paper were made on the spinal cords of six cases of tetanus; and that since the communication of the paper, he had examined the cords of three more cases with precisely similar results. The lesions and alterations of structure, though numerous, were in some places exceedingly small, and appreciable only under glasses of considerable magnifying power.

In the report of the "Transactions of the Medical Society of

the State of New York for 1861," we find the first paper to be upon traumatic tetanus, by Dr J. McMurtry, of the city of New York. This gentleman assumes and defends in this paper, the position that in the blood of certain persons, there circulates a morbific principle, which produces in them a tetanic diathesis, which, when sufficiently developed, and then only, will give rise to tetanus, whether the patient shall receive any local injury or not. Dr McMurtry disclaims the ability to demonstrate the morbific cause of tetanus, or to show in what manner it operates to produce the result; these points he reserves for future investigation.

The chief argument in favor of the position referred to, is the unquestionable fact, that tetanus has occurred idiopathically without the infliction of any injury whatever; while, on the other hand, the very class of injuries, the infliction of which is reputed

to be those most apt to occasion tetanus, occur daily, in a very large number of cases, and under all the conditions which are usually esteemed as those increasing their tendency to give rise to tetanus, without any tetanic symptoms being produced.

We have aimed thus far to collate the views of different pathologists upon the nature of tetanus. In doing this the writer has availed himself of all the sources of information within his reach, and endeavored to briefly embody the opinions obtained in a single paper. These opinions, though not numerous, must be considered as having considerable influence upon a correct appreciation of the nature of this disease, coming as they do, with perhaps one or two exceptions, from men of eminence in the medical profession. In deducing inferences from the opinions given, we conclude :- 1st That the scale of medical opinion inclines towards the view, that tetanus is dependent

upon a morbid condition of the spinal cord; and 2nd, That said morbid condition depends essentially upon a certain predisposition which must first exist in the spinal column.

What this morbid condition is, and what constitutes the predisposition, are questions upon which some diversity of opinion exists. Prof. Wood thinks the morbid condition is "a mere irritation of the spinal marrow including the medulla oblongata." Dr. C. Handfield Jones says it is "a variety of deranged action of nerve cells". Mr. J. Lockhart Clarke that it is "a morbidly excitable condition of the gray substance of the cord." Richardson, Roser, Wells, Simonson and Betoli say that "a peculiar irritable state of the cord, is the essential condition of the phenomena".

Our own humble opinion is that tetanus essentially depends upon a morbid excitation of the vital properties of

the spinal cord, and that such excitation is due to increased activity of the circulation in that structure. This view would seem to be justified by the following facts:—

Muscular contractility is a property inherent to the muscular fibre, and acts through stimuli conveyed by the nerves. In tetanus the tonic spasms produced by continuous nerve stimulation, indicate the source from whence this stimulation proceeds, to be in a state of exalted activity. This exalted activity or morbid excitation of the spinal cord, can alone be dependent upon an increased circulation of blood through its vessels, as the fact has been demonstrated conclusively, that nutrition is the source of the vital properties. Brown-Séquard divided the spinal cord in the dorsal region of a mammal, and then killed it by dividing the carotid artery. A few minutes after the cessa-

tion of reflex action, he injected blood by the opening made in the carotid. Life returned and with it the reflex faculty. This experiment proves positively that the reflex faculty is a vital property belonging to the spinal cord, and that its source is in the nutrition which maintains the organization of that nervous centre.

Admitting that increase of nutrition produces increase of nerve power, we can better understand the effects of climate and temperament in acting as predisposing causes of the disease. Tetanus is well known to prevail to a greater extent in hot climates than in cold ones. To account for this we have but to consider the fact that in such climates the whole dermoid system is in a state of erethism; hence, through continuous sympathy, the spinal cord is similarly affected, producing afflux of blood, and consequent in-

crease of sensibility and nerve power. This nervous centre being thus kept continually at nearly its maximum healthy standard of nutrition, must naturally, when it becomes the seat of still greater activity of circulation through the irritant influence conveyed to it by the nerves implicated in a puncture, contusion, laceration or incision or those exposed to sudden vicissitudes of temperature, give evidence of morbid excitability by the exercise of preternatural reflex power.

That temperament exerts some influence upon the contraction of tetanus is a fact which comes to us substantiated by observation. Baron Larrey observed while with the army of the first Napoleon in Egypt, that the temperaments of the majority of those affected with the disease, were of the dry or irritable kind, as he termed it. We therefore conclude

that persons of a nervous temperament are particularly predisposed to attacks of tetanus, because in them the cerebro-spinal system is in excess, or peculiarly excitable. Hence, causes of most trivial character, may produce the disease, even in cold climates & without the aid of a high temperature, by increasing the already great excitability of the spinal cord.

Cases of idiopathic tetanus may be explained upon the principle, that where there is a high state of nutrition of the Spinal Cord produced by the influence of climate or temperament, causes of so slight character as not to attract notice, may produce the disease by augmenting the already high stimulation of this nervous centre. The fact that division of the nerves leading from the wounded part in traumatic tetanus frequently fails to check the disease

may be accounted for, by remembering that the violent pain accompanying the involuntary muscular contractions, may afford the requisite irritant influence to the spinal column.

Treatment of Tetanus —

The treatment of tetanus is both local and constitutional in character.

The local treatment has for its object the removal of the irritation that has induced the tetanic condition. Although it is true that when tetanic excitement has been set up in the cord, it has a tendency to continue after the ablation of the primary irritation; yet it is only reasonable to suppose that other treatment will best succeed if local irritation be removed, as otherwise the general remedies will have not only to combat already existing disease

but also to overcome the continuous excitement maintained by the local disturbance. If the case be seen in the very onset, the nervous communication of the wounded part with the spinal cord, should be broken by dividing the mediate nerve or nerves near the wound. Amputation of the wounded extremity has been frequently resorted to, but is not generally advocated, unless the injury has been severe, and the part has passed into a state in which whether from sloughing or otherwise, its recovery is doubtful. If no special nerve appears to have been injured, Liston recommends a ∧ shaped incision above the part, down to the bone, so as to insulate it completely. The injured part should have poultices applied to it, having Sol. Morphia Sulph.; Chloroform; or some narcotic Ext. incorporated with them; and the limb above wrapped with lint soaked

in laudanum or chloroform.

The constitutional treatment is directed to the arrest of spasm, and to the support of the patient's strength. To attain the first object, the application of ice to the spine, is to our mind, the most efficient remedy. The hyperæmic condition of the cord evidently calls for this procedure. One of the first phenomena produced by the action of cold, is (according to M. Pouchet, of Lyons, who communicated a long series of experiments upon the congelation of animals, to the French Academy of Sciences) the constriction of the capillary vessels. If sufficiently long continued, so great is the contraction, that no globule of blood can gain admission, so that these vessels remain entirely empty, whence the pallor of frozen parts. The use of ice in this disease is recommended by Dr Todd, as well as Mr. Erichsen, who direct that an oz's

gut or gullet be filled with ice and applied to the whole length of the spine. Being in their estimation a powerful depressing agent, they caution against the longer use of it than six, eight or ten hours, the condition of the patient being looked to in the meanwhile. Dr. B. D. Carpenter, of Cutchogue, Suffolk Co., Long Island, reports two cases of severe traumatic tetanus, which recovered under the use of ice applied to the head, and along the whole length of the spine. The application was repeated at intervals varying from 2 to 8 hours, and continued from ten to thirty minutes each time. The results derived from the application of ice in these cases, must be admitted to confirm the view we have expressed upon the condition of the spinal system in tetanus, as by such measure, the quantity of blood circulating in the cord, is evidently reduced, and depression of

function ensues to the relief of the spasms. The bowels should at once be attended to by the practitioner, and active doses of Calomel with Jalap or Scammony; Senna and Sulphate of Magnesia; or other brisk Cathartics be given. If deglutition is difficult, a drop of Croton oil placed on the posterior part of the tongue, will fulfil the indication. To diminish the susceptibility of the nervous centres, recourse may be had to the narcotics or cerebral stimulants. Of these, Opium or some of its active principles, come first. Cannabis Indica, Belladonna, Stramonium, Woorara, Hemlock, or Aconite may sometimes be employed with considerable advantage.

To support the strength is an important indication. The disease being one of exhaustion from the intense suffering and violent muscular contraction, the system speed-

ily fails, if not plenteously supplied with nourishment and tonics. Wine, beeftea, milk, animal broths, eggs, and similar articles of concentrated fluid nutriment should be given if possible by the mouth. Should the jaws be found too firmly fixed, nutritious enemata may be available. Experience has shown Sulphate of Quinia to be apparently efficacious, when exhibited not merely as a tonic, but with a view to its peculiar influence on the system in heroic doses. Oil of Turpentine in the dose of a fluid-dram every 2 hours, until it evinces some effect or the patient recovers, has had no little reputation in the treatment of tetanus. Dr Elliotson has spoken highly of the preparations of iron in this disease, and especially the Sub-Carbonate. The latter has been given in enormous doses. In one instance it was given to the

extent of half an ounce every 2 or 3 hours, and even of a pound daily. In the more acute cases all remedies seem to fail, the patient being speedily destroyed by the disease ~~~

An
Inaugral Dissertation
on

Gun-Shot Wounds

submitted to the examination
of the
Provost, Regents & Faculty of Physic,
for the
Degree of Doctor of Medicine
by
Edwd H. Dunn.
of Md.

Session of 1868-69.

"Gun Shot Wounds"

In accordance with the requirements of your honorable body I hereby respectfully present a brief dissertation upon the subject indicated by the above heading

Gun shot wounds include all accidents and injuries occurring from an explosion of gunpowder, and are of course, as various as the missiles propelled by the explosive force and the regions wherein the injury is inflicted.

In this article I shall endeavor to confine my subject mainly to injuries sustained in actual warfare and shall aim to follow the rule of "Military surgery" in contradistinction to that of "civil practice"; the treatment being to some extent different

and the prognosis very far different in the two situations; a limb instantly condemned on the field, would be saved in civil prac=tice where the patient could be surrounded by all the comforts and attention of home life, and ready access to all the modern appliances and apparatus for treatment of such injuries.

No portion of the body is exempt from gun shot wounds; hard and soft tissues, bone and muscle, vessels and nerve are all liable to injury.

A comparatively trifling injury may result in death, while an ex=tensive, and horrible looking, wound may pass favorably through all the stages to recovery; the smallest missile may inflict terrible and lasting injury, while a cannon ball

may cause only a slight contusion

Gun shot wounds come strictly under the head of contused and lacerated wounds, they are nearly always attended by sloughing and profuse suppuration owing to the extensive destruction of tissue immediately surrounding the track of the ball: in former times this profuse suppuration was thought to be due to the poisonous character of the wound, this theory is however exploded, the tissues are lacerated, torn and bruised, and the sloughing is the result of nature's effort to rid herself of these, now, foreign bodies.

These wounds are, as a rule, dry wounds, except where a large vessel is torn across or the lungs perforated, then we have haemorrhage

The dryness is due to the lacerated condition of the tissues, the mechanical injury, and the heat of the ball; it is very well known that torn and lacerated vessels bleed less than when cleanly incised; the heat of the ball is due, in my opinion, in part to the heat engendered by the ignition of the gunpowder, by its rapid passage through the air, but mostly to its sudden arrest upon coming in contact with the parts injured; wounds from spent balls slough less, to a marked degree, than wounds received at short range where the missile is rapidly propelled through the air.

At short range the modern bullet makes the opening of entrance and

that of Exit nearly opposite, ploughing through all opposing substances in its course, but at long range this rarely if ever has effect.

The course of the modern conical ball is very erratic, a tendon or bone or even a vessel will change the direction of a ball, if it be near spent.

A ball in its course through a limb, or coming in contact with the edge of a bone, may divide into one or more portions, and each portion may cause a separate orifice of Exit; again, balls have been tracked between vessels in intimate relation without injuring either, apparently not doing them harm, but secondary inflammation may in these cases cause occlusion of the vessels or sloughing that will result in haemorrhage.

It is always important in gun shot wounds to study them carefully, to note the course of the ball, to ascertain if possible the position the person was in when shot, and the immediate result the reception of the injury had upon his nervous system, as upon a correct knowledge of these few facts will depend, in a great measure, the prognosis, and to some extent the treatment.

As a general rule the orifice of entrance and of exit can be determined at the first examination, that of entrance will be inverted, that of exit everted, that of entrance will be of a smaller diameter; the orifice of entrance will be stamped or punched out, while

the edges of the wound at orifice of exit will be torn and everted; entrance will be contracted, exit lacerated; there are frequent exceptions however to the foregoing, the ball may divide after having entered and only half, or less, of it pass out, a portion of the mans clothing may be driven into the wound with the ball, the cloth may slip aside and the ball pass on out, in which case the exit will be of smaller diameter than that of entrance, a rule laid down by some authors is, that on introducing the finger into a wound, even after it has been received, the direction of the torn fragments, splinters of bone, etc, will indicate the direction of the ball from entrance to exit.

After suppuration has commenced the points of entrance and exit can be easily determined, that of entrance will always slough to a greater extent than that of exit.

From the nature of the injury gun shot wounds necessarily slough in the process of healing; if the wound is caused by a ball at short range, sloughing will be greater than when caused by a spent ball; the sloughing will be greatest at the orifice of entrance, it will continue until all irritating substance are removed from the track of the ball; sloughing will begin about the sixth day, the slough will be thrown off about the tenth or twelfth

"In wounds of muscular parts inflammation usually comes from twelve to twenty-four hours after the injury;" "a reddish serous fluid is discharged and the limb becomes stiff and nearly incapable of motion, from its causing an increase of pain; the inside of the wound as the process of separation proceeds, changes from a blackish-red color to a brownish yellow, moistened by a little good pus"; after sloughing the suppuration begins, which is more or less profuse according to the injury sustained, granulations form, under favorable circumstances, and the wound closes by "second intention."

Where wounds are in the neighborhood of vessels, the sloughing will extend and involve them, clots that have

formed in the mouth of bleeding vessels may slough out, giving rise to secondary hemorrhage, this latter accident most usually happens to the distal orifice or mouth of the divided vessel its nervous supply being cut off its "tonicity" is lowered and it does not possess the power to retain the clot that has formed, with that tenacity that the other portion of the vessel is endowed with.

Hemorrhage from gun-shot wounds is fatal in about twenty per cent of the cases; primary haemorrhage is comparatively rare, secondary more frequent; in action where large and important vessels are wounded, as the aorta, the root of the lungs etc, the man falls and dies before assistance reaches him, death is almost instantaneous.

if smaller vessels or branches are wounded the bleeding ceases sometimes spontaneously after faintness has been induced, the heart action becomes feeble, blood is propelled with less force, a clot is formed, first on the outside of the bleeding orifice, then within the contracted and retracted coats of the vessel; in a majority of cases the clot will suffice to control the hemorrhage until the wound heals "secondary hemorrhage, of any importance from small vessels does not often occur"; when limbs are shot or torn off, destructive bleeding will cease with faintness and syncope "nature's effort to save life", and if the sufferer can be reached in time, before reaction comes on with recurrent hemorrhage, he can probably be saved certainly saved from immediate death from hemorrhage.

Consecutive pain is always present in gun shot wounds, primarily, pain is not very marked and may be entirely absent.

A certain constitutional alarm or shock follows every serious wound, the degree of shock is not of the greatest importance, but its persistency is, and when long continued is of the gravest import in forming prognosis.

Fever is almost always present, it is caused by the local irritation set up at the seat of injury, lasts five or six days until the suppurative process begins, a line of acute inflammation is defined, it is here that ulceration begins in ten or twelve days the line of demarcation

is fully established, the slough is ready to come away and suppuration commences; the discharge increases, the wound becomes less painful to the patient although more sensible when touched, the wound contracts the middle portion of the tract first closes; orifice of exit will heal first, the entrance wound will heal in from four to six or ten weeks.

The gravity of a gun shot wounds depends in a great degree, as a rule, upon its locality; wounds penetrating the cavity are more serious than wounds of the extremities, unless in the latter large vessels and principal nerves are severed.

The treatment indicated is, in general terms, to suppress hemorrhage, & that foreign bodies when present, if it can be done without too much injury to surrounding parts, and attend to the general state of the system.

When called to a case of gun shot wound the first indication is to stop hemorrhage, if there be any, secure any vessel of size, that may be divided, either by torsion or ligature, if it bleed; "no vessel is to be tied unless it bleed at the time the surgeon sees it;" the infiltration of blood through the surrounding tissues, with the contraction and retraction of the coats of the vessels will suffice to control the bleeding in most instances, if it prove otherwise

pressure in the tract of the vessel, and by graduated compress in the wound, with the addition of styptics, must be first resorted to, if this does not control it open the wound, enlarging it if necessary, and tie both ends of the bleeding vessel.

After controlling the bleeding the wound is to be examined carefully for foreign bodies that are likely to be present, in this connection it is to be borne in mind that comminuted fragments of bone, pieces of divided tendon bone tissue etc, are, to all intents and purposes, as much foreign bodies as are bullets, fragments of shell, splinters of wood, portions of clothing etc. etc; all foreign bodies are to be removed if possible;

a single orifice does not always indicate that a foreign body is present, neither does the existence of two or more orifices of exit furnish us sufficient evidence that none is present; in the first instance a ball may penetrate the tissues, strike a bone and re-bound, leaving the wound empty and clean, or, a piece of shirt, or cloth, may be carried forward into a wound without being perforated. When this is withdrawn by the wounded man or his comrade the ball may be drawn out without their noticing the fact; in the second instance, where there are two orifices, a ball may have divided against a sharp bone or a stout tendon one half driven out through the other remaining in the body.

The best probe to be used in these explor-
-ations is the finger, it should always
be used where the orifice admits of
it; in most localities the external orifice
may be enlarged sufficiently to introduce
the finger, where orifice admits of it
use the index or middle finger, the
little finger may be used if the depth
of the wound admits of it exploring
the whole extent; after passing one
finger in its whole length another can
be introduced at the other opening
and passed in until the two approximate
when the presence or absence of a foreign
body can be determined.

Having detected the presence of
a foreign body we are directed always
to remove it, but we are never to

make exploratory incisions in search of balls or other foreign bodies, except in cases where continued irritation and constant drainage is kept up, thus threatening the life of the patient from exhaustion, even in these cases it is seldom to be resorted to; when the spot is indicated by the threatened pointing of an abscess or marked fluctuation with pain upon pressure over the supposed locality of the ball, an incision may be made if patient is much exhausted.

Unless a large vessel is involved there need be no hesitation about introducing the finger, the displacement of the outside clot, after fifteen or twenty minutes, will not bring on hemorrhage; "not one case in a hundred where primary hemorrhage has ceased will it, spontaneously, again come on"

When "shock of injury" is marked, reaction must first be brought about, give the fresh air, cold water to drink, as thirst is almost always very great, often the assuring the patient that his wound is not a serious one will suffice to rally him, if the shock prove to be from extensive injury, stimulus must be given, brandy, whiskey etc with or without opium or morphia internally cart Common internally quid Common to nostrils etc; after reaction comes on, the wound examined and carefully cleansed. The patient is to be put to bed, placed in as comfortable position as possible and cold water dressings applied to the wound, the dressings

must not be heavy, a single fold of old linen or cotton cloth will be plenty thick enough. This is to be applied and kept constantly moist. The dressing is to be frequently changed during the first forty eight hours, afterwards four or five times a day will be sufficient; to prevent the too rapid evaporation of the moisture a piece of oil silk may be applied over the dressing.

Any wound is almost always followed by general constitutional disturbance the prominent symptom of which is fever. This "surgical fever" is best treated by not interfering with it. There is no necessity for bleeding, active purgation and calomel, as laid down by some authors; the patient is to be kept in

bed, perfect quiet and rest must be insisted upon, the apartments should be well ventilated. if fresh air cannot otherwise be obtained the patient had better be out doors, in a tent well warmed if weather be severe, limited diet during the febrile disturbance, afterwards, generous diet and plenty of stimulus. mild aperients if bowels are constipated, opium throughout the whole treatment, to allay pain and for its stimulating effect, tonics to be combined with the stimuli when they are deemed necessary treat complications as they arise the various complications cannot be anticipated.

When large joints are involved the prognosis is very doubtful, likewise ~~extensive~~ fractures of shaft of the long bones in the neighborhood of joints, as the fracture is likely to extend longitudinally into the joint, in these cases primary amputation is the best practice, the operation should never be delayed unless the advantages for subsequent treatment and nursing are of the very best.

In extensive injury of large blood vessels, without a probability of collateral circulation being established, amputation will be necessary, as mortification will set up and death ensue unless the limb is amputated

Where the great nerves are implicated with the vessels in the injury, amputation is certainly indicated.

Secondary amputations are twice as fatal as primary; primary amputation will obviate necessity for ligation of numerous vessels that will have to be ligated in a secondary operation.

Secondary hemorrhage is that which occurs after the third day during the process of suppuration, prior to this, hemorrhage is known as primary; secondary hemorrhage commonly occurs from the lower mouth of the divided artery, the distal portion being deprived of its nervous supply. It is not

endowed with the same vitality as its upper portion, consequently the mouth does not contract. The clot gives way sooner under suppuration and bleeding results, the blood will be dark resembling venous blood and will well up slowly not in jets as is usually the case from a divided artery, the blood is supplied by the coll=atral circulation; when secondary hemorrhage first occurs the indications are to control the bleeding from the lower portion of the artery, to accomplish this a bandage is to be applied from the extremity of the limb to within the neighborhood of the wound, here a compress is to be applied for an inch or two over the course of the vessel

The bandage is then carried on up, covering the compress, to the lower edge of the wound a pledget of lint, previously dipped in some styptic (Liq Ferri per Sulphatis, if at hand) is to be thrust into the wound and the bandage carried on up, covering the wound and binding the compress firmly, for a distance of two or three inches above the wound; upon the hemorrhage recurring after this treatment we are not to rely upon it further but dilate the wound and ligate both ends of the divided vessel; where secondary hemorrhage comes on a second time it will almost to a certainty - do so a third, a fourth time, or even oftener, provided the patient is not exhausted sooner

the only safety in such cases is a ligature to both ends of the vessel.

If a main vessel is injured at a point where, at the best, but indifferent collateral circulation can be established or if a branch of any considerable size be injured at a point where, after diligent and careful search, the mouths of the vessel cannot be found, and it becomes necessary to ligate the main trunk, there is almost a certainty of mortification of the limb ensuing, the case should be closely watched and amputation resorted to before the patient's strength is exhausted

Where hemorrhage from a wounded artery is controlled by means of a ligature above the wounded point it is only an accidental circumstance.

Ligatures should not be applied to main trunks of arteries for hemorrhage from its branches, pressure and styptics will ordinarily suffice, if not, tie both ends of the divided vessel at the wound.

In the application of a ligature care should be taken to apply it as far as possible from any large collateral branch, the clot formed under these circumstances is not firm and will be washed away by the flow of blood in the immediate vicinity.

Gun shot injuries may ~~result~~ cause simple, comminuted, or compound fracture; where the ball impinges upon the limb with sufficient directness and force to penetrate the soft parts it causes

of course a compound fracture, and in most cases a compound comminuted fracture

As a general rule an arm or leg should not be amputated in the first instance for compound fracture, unless the large vessels and nerves are divided, an effort should be made to save it.

The arm when fractured should in almost every instance have the advantage of an effort to save it, if an artery yield to suppuration it should be laid bare and a ligature applied to both bleeding ends; "Amputation should rarely take place in the first instance, and only in the second when mortification has commenced or the strength and health of the patient can no longer bear the drain upon them"

In gun shot fractures of the leg the splinters and fragments of bone should be carefully removed, irregular portions sawed off, the periosteum being preserved as far as possible and the limb placed in a splint;

The best splint, in my opinion, for any fracture of the lower extremity is the "Smith's Anterior", in compound fracture it presents the great advantage of the attendant being able to dress the wound every day, or often if necessary, without removing the apparatus; all that is necessary, in compound fracture, in addition to the ordinary method of applying this highly valuable apparatus, is an additional bandage applied over the seat of injury; the principal bandage being applied from the extremity up to the wound, is there interrupted and

reapplied immediately above the wound, when this dressed and the splint properly adjusted, all that is necessary to remove when the wound is to be dressed is the additional bandage that covers it.

Fractures placed in this apparatus can be transported great distances over rough roads without any very marked inconvenience; in this apparatus the patient is not rigidly confined to one position, as in most other apparatus.

In fracture of the lower third, if the advantages for subsequent treatment are apt to prove highly favorable, an effort may be made to save the limb, if the injury is not too extensive, the fragments should be carefully removed, the limb placed in the anterior splint, the patient made comfortable

liberally nourished and his strength carefully husbanded

Fractures of the thigh above the lower third had better be amputated in the first instance, as the suppuration from such an extensive surface will almost beyond doubt exhaust the patients strength; in addition he has the continual irritation arising from the broken fragments coming in contact with the bruised and lacerated soft parts, whereas in amputation he has only to bear up under the suppuration that takes place from a clean incised wound, of perhaps in most instances, no greater extent than that of the original wound; the constant dread of secondary hemorrhage in these extensive sloughing wounds, is annoying to the surgeon and alarming to the patient; in case of recovery the limb will in all probability be shortened to such degree that it will prove a burden and an incumbrance

In gun shot wounds of the head there may be fracture, more or less comminuted, with depression; a ball may penetrate the brain directly, when a ball penetrates it is not often that it can be removed and the sufferer rarely survives longer than a few days, where the scalp is torn, the depression marked, the usual symptoms of ~~de~~ compression present and thought to be due from the ragged fragments of the inner table impinging upon the substance of the brain, the trephine should be applied, the splinters carefully removed the skull elevated; the wound should then be carefully closed, the patient kept strictly quiet, cold applications to the head, opium to allay pain, bowels kept moderately relaxed and general attention paid to the condition of the whole system

In penetrating wounds of the chest the patient should be placed upon the wounded side, so as to evacuate the chest of all accumulating fluids, if ribs are broken fragments of bone should be carefully removed the ball removed when it can be found and the wound carefully closed; if fluids accumulate in the cavity - the wound should be reopened or a canula-trocher inserted at the most dependent portion.

In gun-shot wounds of the abdomen, if bowels protrude they are to be carefully cleansed and returned, the lips of the wound approximated, patient to be put to bed, kept strictly quiet and heated with large doses of opium, to allay pain and keep the bowels quiet; where the bowels are not torn and should emane it will in all probability be the result of peritonitis

in protrusion of omentum. if it cannot be returned a ligature should be applied to base of tumor.

Gun shot wounds of the bladder are for the most part fatal; persons rarely recover in whom urine finds it way into the cavity of the abdomen, they die of inflammation.

When the bladder is wounded below where it is ~~not~~ covered by peritoneum, persons do sometimes recover by the almost unaided efforts of nature; a catheter should be introduced from the first and fixed in the bladder, being removed occasionally and cleansed; opium is the important remedy, with perfect rest, strict attention to diet and the general state of the system.

Edw. S. Dunn

AN

Inaugural Dissertation

ON

Pain. Its Nature & Cause

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

James W. H. Howard

Of

Baltimore Maryland

Session of 1867 & 68.

The study of medicine has a peculiar interest for the thoughtful mind, but when the student passes from the lecture room and goes among his fellow men [illegible] the theories which have been taught him, he will soon see that many [illegible] be accepted as certainties are by no means so, and that instead of leaving [illegible] made but slight acquaintance [illegible]

This is nearly always the case. Even the [illegible] without the science is [illegible] from some condition [illegible] the objection [illegible]

One reason [illegible] and is able to accept the appearance for the reality and to be [illegible] Error has come [illegible] of truth or [illegible] Exists or is dangerous, while absolute truth is so seldom [illegible] we must regard truth such from an [illegible]

comparative point of view.

The Physician in his search after truth feels that he often fails [illegible]

[illegible]

[illegible] of an eight [illegible] question [illegible]

[illegible] strength and zeal — and the engineer [illegible]

[illegible]

In his practice, though he sometimes [illegible]

that he has been able to relieve suffering and pain [illegible]

[illegible]

[illegible]

[illegible]

[illegible] of humanity it must be constantly met and combated [illegible]

[illegible] — the dread of pain compels men to order

and discipline [illegible]

[illegible]

[illegible] persuade man from Evil to righteousness.

Man uses it as a weapon to induce the obedience [illegible]

[illegible]

[illegible] - and yet we may regard it in another aspect - While on

[illegible]

[illegible]

[illegible]

[illegible] on [illegible]

[illegible] a [illegible] of [illegible].

Pain is an irritation [illegible]

[illegible] Sensorium Commune and recognized by the intellect; [illegible]

defines it, as follows. "Pain is an abnormal sensation received by a

living [illegible]

[illegible]

[illegible] either from the [illegible] of the

agent which causes [illegible]

and [illegible], or from the state of the [illegible]

receives it [illegible]."

"The morbid state of the brain bearing the same effect as that
produced when the different lobes or portions of the
the medulla of the nerves are [illegible]
disorganized by any [illegible] Finally, [illegible]
pain is due to an abnormal state of the nervous system, from
the [illegible] of parts when any, or no [illegible] effect
Either the [illegible] of [illegible] [illegible]
presiding over the [illegible], or from the [illegible]
faculties of understanding and expression, or the faculties
[illegible]"

It will be seen that the author [illegible]
the whole subject in [illegible]
[illegible] Time will not allow me
to follow his points seriatim, so I shall proceed with my subject,
dividing it into two classes – ie – True pain, and Neuralgia.
True pain [illegible]
to structural change or pressure – True pain or Neuralgia may

[illegible]

[illegible]

[illegible] tenderness is usually accidental and [illegible] associated with [illegible]

[illegible]

[illegible] parts of the organism, and is relieved by the same — yet the two are so blended [illegible]

[illegible]

Pain may be caused by certain conditions of the circulation — certain conditions of the nervous system, certain conditions of [illegible], and certain conditions of other parts of the system, and we can even cure them [illegible] of attention upon a particular part can produce real pain and even structural change as in the case of a patient of [illegible] — and we know that [illegible] imitate various disorders very accurately, and still the suffering exists as really as in the [illegible]

[illegible] for their cases deserve the best medical attention and sympathy.

That the Circulation [illegible] upon the existence and character of pain we cannot doubt [illegible] nourished and the well nourished may have pain in certain conditions differing very markedly in degree as well as character and many secondary conditions [illegible] have to do with it so that the state of the blood accounts for several [illegible]

Mr Radcliffe thinks that Neuralgia must [illegible] with a depressed condition of the Circulation [illegible] such character would seem to be [illegible] by an overaction [illegible] circulation he argues the point of these clinicians by stating that the majority [illegible] affected with Neuralgia are of a feeble and excitable [illegible] with a circulation inclining with such conditions [illegible] particularly this excited state and the [illegible]

of its manifestation, with that of the [illegible]

The second one of this [illegible] specimen [illegible] [illegible] cites his case of [illegible] and [illegible] of Rheumatic fever, pain may have endured for weeks with general [illegible] and local inflammation [illegible], [illegible] though the lungs may be diseased and sensitive, the pain is usually moderate or [illegible].

It [illegible] sudden [illegible] to [illegible] agony, — but in some, [illegible] relief, [illegible] [illegible] in the last [illegible] [illegible] [illegible] stroller, [illegible] [illegible] [illegible] pain. As the inflammatory [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] prison temporarily deaden the sensibility of the [illegible] [illegible] these would be sufficient to [illegible] [illegible] [illegible] Radcliffe's [illegible]

[illegible] the [illegible] in [illegible] of [illegible] [illegible]

such antagonistic conditions [illegible]

"[illegible] the seat [illegible] the fourth

active Congestion or inflammation", in this we fully concur - as

we have already shown [illegible]

is succeeded [illegible]

more common [illegible] his idea that [illegible]

rather than recurrent inflammation without [illegible]

[illegible] when such [illegible]

established in is succeeded by indurated [illegible]

[illegible] after such condition of tenderness will almost invariably

[illegible] lesion, [illegible]

Tone pain has existed he may not find any such.

In course of time [illegible]

yet is that tendency [illegible] such

inflammatory [illegible]

[illegible] there may be one of nervous irritation [illegible] one

in [illegible] [illegible]

of [illegible] in a [illegible] of [illegible] [illegible] [illegible]
the [illegible] [illegible] [illegible] [illegible] [illegible]
what the cause of such condition may be, whether from
deficiency of [illegible] [illegible] [illegible]
of its various or possible causes.

Now whether the inflammatory excitement of the
nervous system is a consequence or [illegible] of the [illegible]
which pain is the exponent I am not prepared to say,
though I am rather inclined to think that it is a [illegible]
as we may have the pain without it, and when it (the
inflammation) supervenes, the pain disappears, to be succeeded by
tenderness.

I cannot however come to the sweeping conclusion
of Mr Radcliffe "that true pain should be [illegible]
always as an evidence of [illegible] [illegible],
general and of defective [illegible]
[illegible] of a contrary state of [illegible]

would not all cases receive the same treatment [illegible]

indicates the increase or supply of such defective [illegible]

uniform and universal plan of [illegible]

[illegible]

[illegible] Generally speaking [illegible]

be correct, but [illegible] make it [illegible]

universal [illegible].

Pain in its localities and modes of [illegible] may be as various as are its causes. At one time it is local, [illegible] expression of [illegible], at another, the local injury or irritation may have long subsided while the irritated or [illegible] still [illegible] of the excitement and [illegible] after the [illegible] of [illegible] connections - or again it may exist in one locality perfectly sound and uninjured, as the result of an injury of some remote part.

Exposure to cold and damp atmosphere [illegible]

[illegible] of consciousness, cerebral or nervous [illegible], direct or reflex action; emotion, passion, various conditions of the circulation and of the system and [illegible] any perverted sensation may result in pain.

[illegible] that the [illegible] force and that this force is doubled by [illegible] the direction and [illegible]. Now impulses not be [illegible] free from [illegible] and may not [illegible] force [illegible]?

[illegible] it is quite [illegible] before conceded, that pain is generally due to [illegible] that is not [illegible] equally [illegible] a condition as [illegible]. Think that it is [illegible] with Dr Radcliffe [illegible] headaches when this force then [illegible] is followed by pain. I know also that when the blood is poor, and the circulation is weak, or [illegible] is [illegible]

this force not being supplied there, pain ensues which still [illegible] the body, and then we see arrest of secretion and the accumulation of poisonous [illegible] system.

In Syphilis, [illegible] other [illegible] depends upon some poisonous principle in the blood or nerve tissue — and this [illegible] or perverting the nutrition of nerve tissue, [illegible] various functions of the system and thus may allow either an accumulation of waste material, or waste of [illegible]

The sensation of pain [illegible] made upon the nervous system and conveyed to the sensorium commune, which by the way is not confined to any particular part of the body, is recognized or [illegible] the intellectual faculties, and the [illegible] that without [illegible]

and recognize as brain would scarcely exist, though if we should [illegible] [illegible] seem to be what we might call unconscious sensation or brain.

It is a general rule the less the intellect the smaller the capacity for or appreciation of pain — [illegible] [illegible] of suffering, and persons whose faculties have been blunted by Ether or Chloroform undergo the most serious operations without any or at least much pain as far as we can judge. Descend [illegible] of creation and the further we go in our enumeration the less [illegible] pain do we find. Even under the [illegible]

[illegible] of endurance and different susceptibility and so on; for I myself have often seen one [illegible] intense pain from an operation [illegible]

[illegible] at the time [illegible] than at another [illegible]

[illegible] — [illegible]

[illegible]

as to susceptibility, and this difference helps to make our individuality.

A man may suffer more at one time than at another, or

[illegible]

[illegible] which when first encountered [illegible]

[illegible]

our being, that such is the case, and that we are so constituted as to be able to learn to bear what would otherwise be intolerable —

[illegible] novelist [illegible]

[illegible] physical

and mental being who in high health [illegible]

[illegible]

slight injury.

It is singular how the locality of pain may modify and effect its character, as we know how the pain of an affection of the [illegible] of a like or similar affection in other [illegible] is a shade of difference according to the nature of the tissue involved – Is this difference of kind or degree? [illegible] degree I fancy.

The character and degree of pain cannot always be taken as an evidence of the severity of a disorder – frequently we have severe pain without any other [illegible] – [illegible] pain of trouble at some distance, [illegible] from its own seat, as for example [illegible] indication of disease not in the knee but of the hip joint.

In severe accidents one great source of danger to life is from shock with a prostration of nervous force and a state of collapse – at times [illegible] this is of [illegible] and [illegible] [illegible] for a long time [illegible] injury, [illegible] [illegible] shock – [illegible] [illegible] [illegible] of pain, and [illegible] condition continue and if there has been extensive injury [illegible] [illegible] the [illegible] [illegible] in the injured part.

[illegible] we must [illegible] grateful that we have [illegible] to warn us of the approach of disease or injury which might otherwise creep upon us, [illegible] sensitive stomach and of the [illegible] individual.

When we lose this natural constituent, disease may make great advance without any [illegible] and in some instances [illegible] has ensued - not so much from the traumatic injury which caused it [illegible] but from the [illegible] change before formed (unperceived by the sufferer and his [illegible] which caused [illegible]

I shall not in this paper attempt to indicate the [illegible] for the [illegible] pain of which I have written - The good old [illegible] "[illegible]" is an excellent one but there is a condition implied which cannot always be fulfilled i.e. "Find the cause", now both [illegible] to be done, but unfortunately there are many cases [illegible] can

[illegible] Else-Medicine would become a certain art.

If we ascertain the cause, of course we can then act more intelligently and establish [illegible] otherwise be able to do, but we are frequently prone to mistake cause for consequence, and consequence for cause.

As a general rule of treatment [illegible] morbid conditions of the blood [illegible] would use Heat, Cold, [illegible], Sudorifics, Diuretics, Solution [illegible] baths - Irritants, Electricity or Blood letting - or in short I would resort to every measure the nature of the case might demand [illegible] would not be [illegible] either of the Dry Cupping or Brown's School or of the opposite extreme of Neo Medical and Homo[illegible]

universal language for all humanity.

AN

Inaugural Dissertation

ON

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By

Of

Session of 18

D. X.

D. Circulation of the Blood.

D. discovery of the circulation of the blood does not belong to any one [illegible] but [illegible] continued to [illegible] and to [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] considered the [illegible] [illegible] the circulation of the blood.

1. D. that the arteries [illegible] air only.

2. D. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

3. D. that the veins carried blood to all parts of the body, instead of bringing it back from them.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] D. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

he included Bark and [illegible] that [illegible]
instead of air issued. He therefore stated
that the arteries contained blood only.
[illegible] fourteen hundred years [illegible]
[illegible] Andreas [illegible] was after
[illegible] satisfied himself of the [illegible]
[illegible] assumed inter-vent[illegible] [illegible]
[illegible] that the siphon was not [illegible]
[illegible] and the second year [illegible]
[illegible] dismissed upon the assertion of [illegible]
[illegible] Erasistratus that [illegible]
[illegible] in vain.
[illegible] of the [illegible]
[illegible] discovered but they remained
separate and unsyllable [illegible]
[illegible]

[illegible]

[illegible] the circulation of the

[illegible] awarded to [illegible]

[illegible] the circulation

[illegible]

[illegible]

[illegible] ingredients necessary for the formation of [illegible] strength to the contraction of the ventricle [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The [illegible] are directed inwards and [illegible]
[illegible] is also directed downwards
[illegible]
[illegible]
[illegible] It is divided into four cham-
bers [illegible]
[illegible]
[illegible]
[illegible]

other by inter-auricular and inter-ventric-
ular septa, which are, [illegible]
to the relative chambers [illegible]
and are [illegible]
[illegible]
The upper and posterior part [illegible]
and have a small appendix [illegible]
known as the auricles. [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] on the left side of the heart. The

[illegible]

[illegible] half. [illegible]

being as one to two.

The auricles and ventricles of the heart [illegible]

[illegible] forming blood vessels

[illegible] forever partially separated by contraction

of this organ. They are recognized by the main

[illegible]

[illegible]

[illegible]

between the ventricles and the aorta and

pulmonary artery [illegible]. [illegible]
[illegible] the [illegible]
[illegible]
[illegible] which allow the blood [illegible]
pass from the auricles to the ventricles and
from the ventricles to the arteries, and
prevent its regurgitation. [illegible]
pulmonary [illegible]
[illegible] of the [illegible]
[illegible]. [illegible]
[illegible] upwards [illegible]
against the [illegible]
during the passage [illegible]
[illegible] auricle [illegible]
right auricle & ventricle is formed the
[illegible]
[illegible]

[illegible]

[illegible] the valves in this position. The circulation of the blood [illegible] as follows.

The venae cavae ascendens and descendens empty the venous blood which they [illegible] at first into [illegible] afterwards into the [illegible] other. In the [illegible] the blood being [illegible] the Hepatic, by the closure of the [illegible] valve, is prohibited through the

artery to the lungs. As the venous blood
has been subjected to the influence of the res-
piratory process, it is brought by the pul-
monary veins to the left auricle, and
[illegible] it passes through the auriculo-
ventricular orifice into the left ventricle.
Owing to the contraction of the thick
and strong walls of the ventricle it is
propelled into the aorta and its main
artery and its branches distributed to
the whole system. The passage of
the blood through the heart, pulmonary
vessels and lungs is termed the pulmonary
or lesser circulation, that through the body
the system the systemic or greater. The mo-
tion of the blood through the heart is ac-
complished by [illegible]

relaxation of the muscular fibres of the
organ. Imagine a finger in the
pocket it and the contents are then
in the same condition as the heart.
Each one of these successive actions is
called a pulsation, and the rate of
such pulsation is recognized as
movement and impulse.

The movements of the heart are
the following. First we can
see and feel a pulsation. This is heard most clear-
ly over the 4th rib and 4th intercostal
space on the outer side of the nipple
and is caused by the closure of the mitral
and semilunar valves. Next the

to the other. The gentweichen is called [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

forward and [illegible] contracted [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

ide are divided in two lanes, one lane [illegible]

across the base, is formed the left auricle.

auricular ventricular ring, in front of the

[illegible]

coiling around the centre of which the

1st direction becoming elevated, runs up

along the inner surface of the [illegible]

finally terminate in the columnae car-

[illegible]

in a circular direction around the

aortic terminating in the columnae car-

[illegible]

[illegible] and to render these violent

[illegible]

[illegible] follows the contraction

[illegible]

[illegible]

of the action of the ventricles

of the heart during a pulsation

follows the contraction

[illegible]

the apex. The ventricle

[illegible] its walls [illegible]

[illegible] against the

[illegible]

[illegible]

takes up one half of the duration of a beat. After this the ventricle is immediately relaxed and a period of rest follows. During this pause the blood is flowing into the auricle [illegible] the ventricle contracts forcing the blood into the aorta. [illegible] the auricle the ventricle is at rest and receives the blood into its cavities. This never ceases to be a regular alternating with each other and form the cardiac pulsation.

[illegible] course and are [illegible]

[illegible]

the limbs along the flexor side [illegible]

[illegible]

composed of three coats, an inte-

rnal and external. The internal coat, [illegible]

[illegible]

epithelial on outer elastic [illegible]

coat is composed of [illegible]

fibres and the external coat, like the

other three, consists of fibres [illegible]

the tissue, the large [illegible]

essentially in their middle coats, the [illegible]

[illegible]

[illegible] are a [illegible]

direction around the vessel [illegible]

[illegible]

[illegible]

of the large arteries is composed of elastic [illegible]

[illegible]

on the other hand the smaller the arteries

grow the more contractility they have. The

[illegible]

elasticity increases

The contraction of the heart is the

cause of the movement of the blood

arteries, but the elasticity [illegible]

[illegible]

arteries filled with circulating fluid

contracts, the muscular walls of the

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

were not the same throughout the whole

[illegible]

received. The arteries all seem to be

distended at the same time. But the

[illegible]

and rapidly transmitted at a distance an

[illegible]

relaxation of the vessels to the more

distant arteries. Imagine the difference

[illegible]

[illegible] the [illegible] of [illegible]
[illegible] in the [illegible]
[illegible] inch [illegible]
[illegible]
[illegible]
[illegible] of the heart [illegible]
[illegible]
[illegible] the [illegible]
[illegible] the [illegible]
[illegible]
[illegible]
[illegible] blood is 12 inches [illegible]
[illegible] the arteries approach the [illegible]
they diminish in size and [illegible]
external coat [illegible]
[illegible]
[illegible] disappears leaving a homogeneous

24

[illegible]

[illegible]

communicates with the inner coat of the arteries.

[illegible]

[illegible]

[illegible] the branch

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

of its muchness calculated to [illegible]

[illegible]

[illegible]

200 [illegible]

[illegible]

[illegible]

[illegible]

[illegible] circulating fluid having now [illegible]
[illegible] is carried into the veins in order to pass
[illegible]

[illegible] Veins have the same structure
like the arteries composed of 3 coats, a
internal, middle and an external. The inter-
nal coat [illegible]
It contains less elastic and muscular fibres
[illegible]
The external coat is thicker than the other
and similar to the external coat of the arte-
ries. The walls of the veins are very much thin-
[illegible] elastic [illegible]
they can however resist pressure [illegible]
[illegible] Edwards [illegible]

[illegible]

[illegible]

The chest being expanded by the inspiration [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The veins which convey the blood from [illegible] valvular sinuses, which consists a [illegible] contraction and [illegible]

contracts at Foecemus section laterally as [illegible]

[illegible]

in. The closure of the valves of [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] circulation.

[illegible]

[illegible]

[illegible] is continually active. The steady and constant accumulation of blood in [illegible] arteries gradually forces the blood [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] injected about twice that of the entire [illegible]

[illegible] so distended with blood as to [illegible] with [illegible]

[illegible] without [illegible]

According to [illegible] experiments on animals it has been calculated that the blood flows through the entire [illegible] seconds.

AN

Inaugural Dissertation

ON

Tuberculosis.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Wm. H. Russell.

of

Maryland.

Session of Anno Domini 1868 & 9.

Tuberculosis.

Tuberculosis is the commonest and most fatal disease to which the human race is liable. Occurring at every age, and in every rank of life, it selects the most beautiful and gifted as its victims, and induces months or years of weary suffering. What need then for further

inducement to a careful study of its character —, to a diligent inquiry as to whether something may not be done to prevent its occurrence, to retard its development, or arrest its progress?

With a view to attaining accuracy it will be desirable to commence by an inquiry into the nature of Phthisis, and [illegible] part which is played by pneumonia, disease in causing the fatal result of the disorder.

It may be stated that Tuberculosis is a limiting

a constitutional disease, and is closely connected with perverted nutrition and imperfect sanguification, when, the blood, having become vitiated to a certain point, an unorganized substance, which has been termed "Tubercle," is deposited in various parts of the body. This product or material is not deposited indifferently in all parts of the body. It affects certain organs or parts in preference to others, and none so frequently as the lungs. Hence the disease is often designated by the terms Phthisis Pulmonalis (Pulmonary

Consumption &c. — terms, which, though expressive of one of its commonest and most characteristic features, ignore its constitutional origin, and for that reason it follows that more appropriate titles are Consumption, Phthisis or Tuberculosis, which do not convey the incorrect idea that the disease is of pulmonary origin.

The inquiry to be made is — "In what does this constitutional derangement consist"?

It is not so easy to give a definite answer to this question, but a few points may be indicated

which may throw some light on the subject. Chemistry has shown that the blood in Tuberculosis contains an excess of water, in proportion to its solid ingredients, that it exhibits a relatively increased amount of Albumen, and is deficient in fat and red corpuscles, is less alkaline than in health, and is otherwise altered in character, while the general tendency of combined chemical analysis, microscopical research and clinical observation has been to prove, not only that the nutrient fluid is vitiated and impoverish

ed, but that its vitality is below the natural standard.

The same inherent defect or infirmity is traceable throughout the organization of the body.

The structural peculiarities which characterize the disease are indicative of imperfect cell formation, and extreme delicacy of the tissues, whilst the functional derangements, in their ever changing variety, afford evidence of the weakness of the different organs, and of their liability to become disordered by the slightest exciting cause, so that although

Consumption is attended by local symptoms produced by corresponding local miseries, there is not in the whole catalogue of human ailments a malady which more strictly deserves to be placed among constitutional disorders.

But what is the starting point of this derangement?

A variety of theories have been advanced on the subject. Some have referred the disturbance to imperfection of the primary processes of digestion, some to secondary mal-assimilation and mal-nutrition of the tissues,

—, some to a morbid condition of the lymph —, some to a specific poison in the blood —, some to want of power in the organic nervous force —, some to imperfect respiratory action —, some to deficient oxygenation of the blood, and others to a variety of causes needless to enumerate. Whatever the disturbing cause may be, the conditions which are invariably antecedent to the formation of tubercle are — defective vital formative power, impoverished blood, imperfect assimila-

tion, and general mal-nutrition.

These constitute the causes of Phthisis, and this leads to a consideration of the predisposing and exciting causes of the disease.

It will be manifest from what has been stated that among these must be classed a great variety of agencies: first, the inheritance of a tuberculous tendency; second, long-continued exposure to cold and wet, improper or insufficient diet, irregularity of living, insufficient exercise, unhealthy and sedentary occupations, the con-

stant inhalation of an impure atmosphere, the depressing influence of an unsuitable climate or locality, the indulgence of excessive sexual intercourse, vicious habits, overprotracted lactation, and long continued grief and mental anxiety are among the causes which most powerfully predispose to the inroads of Consumption, whilst irritation and congestion of the lungs, whether produced mechanically or through the agency of diseases which in the absence of a predisposition

to tubercle, would pass away without producing the development of Consumption, may be regarded as its most common exciting causes.

Common observation has stamped consumption as an hereditary disorder, and among the laity the opinion is entertained that in a vast majority of cases the disease is traceable to hereditary taint. "We have no Consumption in our family" is considered a conclusive reply to the inquiry whether certain symptoms may not be attributable to that disease.

Facts show the tuberculous diathesis, in a certain majority of cases, to be congenital and inherited. Why a peculiarity of constitution, rendering a person specially liable to the development of this disease, should be transmitted from parent to child cannot be explained, any more than the fact that peculiar traits of physiognomy or mental character are inherited.

But it is also to be borne in mind that, owing to the frequency of the disease, a large proportion of tuberculous parents may have consumption by mere co-

incidence, and it may be true that, sufficient consideration, not having been given to this fact, hereditary influence may have been over-rated.

Without further discussing the predisposing causes of tuberculosis, let us pass on to the consideration of tubercle, the material which forms the characteristic element of the disease.

Tubercle is a substance formed from the blood, to replace material lost by the ordinary retrograde metamorphosis.

It is of imperfect organization and low vitality, unfit for the construction of new tissues, or for the performance of the ordinary functions of the organ in which it may be deposited. The organ selected is not constant sometimes one being attacked sometimes another but in every instance it plays the part of a foreign body, and damages, both by the extent of its own area, and by the inflammatory action it causes, the organ in which it may be imbedded.

In appearance it varies greatly, the varieties observed be

ing in part referable to differences in structure, but in part also, to the age or stage of development and extent of the deposit.

There are two forms in which it is chiefly recognized. In the one it appears as minute, firm, semi-transparent granules, of a bluish gray color, very different from ordinary miliary, and known as "Gray, miliary Tubercle". These may be sparsely scattered through the lungs, or may crowd their entire tissue. In most instances they are isolated, and sometimes are so minute

as to be scarcely discernible by the naked eye, and more commonly they are about the size of a millet seed, and, occasionally, when several of them coalesce, they may form a mass as large as a pea. Usually firm, and of a semi-cartilaginous hardness, they are occasionally softer and less resisting, and admit of being readily crushed between the fingers, whilst, not unfrequently, they are mixed with black pigmentary matter, or else are surrounded by it.

The other and

more common form of deposit, is that known under the title of "Yellow Tubercle". This form is quite opaque, and varies in color from a dirty white to a drab or a bright buff, and in consistence from that of firm tough cheese, to that of diffluent cream cheese.

In many instances it exists in roundish or irregular-shaped isolated masses, in others a large proportion of the lung is infiltrated with it, and in others again it exists in isolated masses in one part of the lung, while in another part it infiltrate

large portions of the lung tissue.

The isolated deposits may vary in size from that of a millet seed, to that of a hazel nut, or a large walnut. The larger masses being formed by the aggregation of the smaller deposits, which give rise to compression and atrophy of the intervening tissue. Thus the size of the mass is determined by the extent of lung tissue implicated in the mischief, and the shape by the form of the space in which the deposit is made.

Not unfrequently the deposit is soft and fruitaceous in

one part of the lung, and tough and firm in another, extremely friable in yet another, or if the deposit be old it may have undergone Calcareous or Cretaceous degeneration, and may prove of stony hardness. In another class of cases the tuberculous matter becomes mixed with a dark-colored Carbonaceous deposit, which not only colors the tubercle, but gives a bluish-black tinge to the pulmonary tissue.

Tubercle, when once deposited may long remain very nearly in Statu quo, or may,

slowly, or speedily, undergo transformation, and the precise nature and rapidity of the change will depend in part on the original constitution of the deposit, and in part on the condition of the patient's system. The gray, miliary tubercle does not ordinarily break up, or undergo softening. It loses its transparency and ultimately shrinks into a dense, hard tough mass; in certain instances however, in which it becomes the the seat of yellow tubercular deposit or undergoes transformation into yellow tubercle it loses this

character, and is liable to soften and break up; in others it becomes the seat of slight earthy deposit.

Yellow tubercle, on the contrary, is prone to soften, the process of disintegration, sometimes commencing in the centre of the tuberculous mass, but more commonly at its periphery. Softening, however, does not necessarily occur in yellow tubercle. It usually takes place sooner or later if the patient's health continues to fail, in which case the tissues entangled in the tuberculous mass, or immediately surrounding the softened tubercle

becomes inflamed and suppurates, the softened tubercle mixed with portions of the disintegrated lung tissue finds its way into the air-passages, excites cough, and is then expectorated, leaving cavities or vomicae in the lungs.

After softening has taken place, and the disintegrated tubercle has been removed by expectoration the cavities which remain may cicatrize under the influence of returning health and increased vital power. In cases of acute Phthisis, and especially when the deposit of the gray miliary

variety, tubercles are apt to be disseminated through all parts of the lungs, and, in children, the same fact is frequently observed; but in chronic cases, and in adults the deposits usually commence in the apices of the lungs, (the left most frequently), and are sometimes altogether absent in the lower lobes.

In a diagnostic point of view this fact is of the utmost importance.

In most instances both lungs are affected to a greater or less extent, but the tubercle is

deposited earlier, and the deposit is larger in amount and in a more advanced stage of softening at the apices than in the middle or lower portions, so that when large cavities exist at the summits of the lungs, smaller and more recent vomicae are found lower down, and crude, unsoftened tubercle, or healthy lung tissue at the base, but sometimes the middle or base of one or both lungs is alone or principally affected, and at other times one lung may escape altogether, while the entire trac-

ture of the other is infiltrated with tubercle, or broken up by vomicae. Sometimes, again, both lungs may be partially or extensively implicated, but the tubercles may have undergone degeneration and softening in the one lung, whilst they are firm, and present all the characters of recent deposits in the other.

Clinical history in sketching the course of this affection, should devote a special care to the first stage, as being the period in which there is most promise of benefit from

professional advice.

In many instances the earliest, and for some time the only symptoms of its approach are dyspepsia with sick headaches, loss of appetite, gradually increasing languor and debility, and depression of spirits. The patient feels unequal to his ordinary avocation, his nights are restless and in the morning he rises weary and unrefreshed. After a time emaciation commences, the flesh becomes flabby, the countenance pale, the pupil of the eye dilated, and the conjunctiva

of a pearl-like whiteness. The hair falls, and in many instances the finger-nails become incurvated, and the ends of the fingers themselves become clubbed.

Sometimes the patient suffers from weakness and hoarseness of voice, soreness of the throat and a tightness across the upper front of the chest, with fugitive dull, aching pains about the clavicles or under one or both scapulae, and although he has no catarrhal symptoms he fancies he has taken a cold for he feels chilly and un-

comfortable, and has a short hacking cough, troubling him principally night and morning.

At first the cough may be so slight as not to cause him any annoyance, or even to excite the apprehension of his friends, being regarded simply as a clearing of the throat. It appears to be caused by relaxation of the uvula, or by irritation of the pharynx, which, in the earlier stages of Phthisis is often rough, red and covered with mucus, but after a while the cough increases in frequency

and violence, recurs at intervals throughout the day, especially after exertion, and is attended by a scanty expectoration of ropy or glairy mucus, speckled tinged or streaked with blood.

Little suspecting the cause of his ailment, the patient complains that he is short-breathed on going up stairs, and is soon exhausted by the slightest active exertion, and the physician finds that breathing is quicker, and the temperature of the body higher than natural, usually ranging from 100° to 102,

even at midday, and that his pulse is accelerated, especially in the evening, and very deficient in force. His face flushes on the slightest excitement, and particularly after meals while, in some instances, febrile paroxysms marked by alternate chills and heat by night and by perspiration toward morning form a cause of gradually increasing weakness and of serious annoyance and complaint. The tongue may be clean or more or less coated, and the pulse weak or irritable, varying in frequency from 60 to 140 in the minute.

The urine is at one time clear

and pale; at another high-colored scanty and turbid, but it simply varies with the state of the system and throws no light on the condition of the chest.

Haemptysis is often one of the earliest, and is certainly one of the most frequent symptoms of consumption. It may vary in amount from a mere speck or streak of blood to an ounce, a pint or even a larger quantity, and in some instances it proves rapidly if not immediately fatal; producing from suffocation, or proving indirectly fatal after a few days by exhaustion.

Seldom, indeed, does Consumption run its course without "spitting of blood" to a greater or less extent, but fatal hemorrhage as the result of tubercle is an event of very rare occurrence. The cause of this is that the larger vessels resist ulceration to a remarkable degree and before complete erosion of their coats has taken place clots usually form in their interior, and the circulation through them is arrested. In children profuse hemorrhage is indeed of rare occurrence.

Haemoptysis is very frequently found at the outset of

the disease, and recurs at longer or shorter intervals throughout its progress. In most instances the blood is small in quantity, and only produces streaked or stripped sputa, but sometimes profuse hemorrhage is the first or earliest noticed symptom. The blood is usually of a florid red color, but may be not seldom of a brickred hue, and sometimes, though rarely except in the later stages of the disease it may have a venous tint.

As the disease advances it is ejected more frequently and in rather larger quantities, forming

small size, and it is more commonly met with in the expectoration of males than of females, in that of adults than in that of children.

When ejected in considerable quantities the mucus is frothy from the admixture of air.

Pain in the chest especially acute pain is rarely an attendant on the early stage of Consumption; but a dull pain, or aching uneasiness under the Clavicles or Scapulae is one of its most constant symptoms. As the disease advances, sharp pain,

Cough not very acute or Catching is often experienced in the Chest caused, sometimes by simple Neuro-dynia, or by morbid changes going on in the lungs, but in most instances by local attacks of dry Pleurisy.

These pains differ from those which accompany Bronchitis in being felt in the side, or in the back, or under the Scapulae rather than under the Sternum, and in being increased by inspiration almost as much as by Coughing, which alone produces much pain in Bronchitis.

Difficulty of breath

ing is by no means a frequent symptom, and when it does occur in any marked degree it is not referable to uremia this is, but to some coëxistent disease, such as Heart disease, Pleurisy, Pneumonia, Bronchitis or Pulmonary Emphysema.

But, though difficulty of breathing is not observed except on active exertion, acceleration of the breathing is a constant and most valuable diagnostic symptom, even when the patient is at rest and appears to be breathing tranquilly. The frequency of the

respirations will prove to be above the normal standard, and on the slightest exertion may rise to a degree which is quite inconsistent with a healthy chest.

Febrile symptoms are seldom observed in the very earliest stage of the disease, unless it occurs in an acute form, but they begin to show themselves at a somewhat later period, and in the second and third stages assume the form recognized as Hectic. Sometimes, however, in chronic cases, they are not well marked even after cavities

have been formed in the lungs.

They usually commence with chilliness, followed by burning heat of skin, the temperature of which often reaches 104,0. and may ranged as high as 106,0, and these heats are then succeeded by profuse perspiration, and this train of symptoms, which constitute a perfect paroxysm, may occur at noon, and again toward evening; more frequently, however, they occur only at night, and the perspiration continues until early morning. No symptom is more remarkable or more

distinguishing them from these colliquative sweats in Phthisis, and no source of drain on the system appears to be more exhaustive.

Emaciation is one of the most striking and characteristic features of Consumption.

Cough is another of the earliest symptoms, and is that which frequently first attracts the attention and awakens the fears of the patient's friends. Generally it is a first but slight, occasional and dry. It occurs on the patient's getting out of bed in the morning.

or if he make any unusual exertion during the day. It feels to him as if it were caused by irritation about his throat.

Sometimes it will cease for awhile, as in the warm weather of Summer, and recur in Winter when the external temperature is lower. By degrees it begins to be troublesome at night, and to be attended with more or less expectoration of mucus or muco-purulent matter.

The digestive organs sometimes remain in tolerable order, and the appetite, though irri-

Dions, is not materially impair-
ed, but, more frequently, the
appetite fails and the digestive or-
gans are disturbed to a greater or
less degree, even in the earlier
stages of the disorder, and at a
more advanced period the disturb-
ance is very serious. At first
there are pain and tenderness at
the epigastrium, increased after
taking food, with nausea and
vomiting, costive or irregular
bowels, and small aphthous
ulcerations in the mouth. As
the disease advances tuberculariza-
tion of the mesenteric glands and

of the glomerular follicles of the bowels occurs, the abdomen becomes tender on pressure, ulceration of the bowels takes place and Diarrhoea sets in with extremely offensive evacuations sometimes mixed with blood. Nausea and vomiting after food become more frequent, and the mouth and fauces are apt to become sore and extremely aphthous, so that deglutition is rendered painful and difficult. In some instances Peritonitis is suddenly lighted up, and occasionally, though rarely, ulceration of the

bowel terminates in perforation and the escape of fæcal matter into the abdominal cavity.

In these cases excruciating pain occurs in the abdomen, collapse ensues, and the patient usually sinks in a few hours.

Diarrhœa is of common occurrence, and is a symptom of grave signification. The diarrhœa of Phthisis is not an ordinary looseness of the bowels, nor is it due to ordinary causes. It has a special origin, and is marked by special peculiarities. It is troublesome, painful some-

times, but not often; it is very persistent, and is seldom amenable to ordinary remedies. It is apt to recur, and is not unusually accompanied by furring of the tongue, and the sickness and vomiting which attend other diarrhoeas; hence its character may be recognized after a few days observation, and when in a person suffering from cough, the bowels, which previously have been costive become habitually loose, and the looseness assumes the characters above mentioned, there can be but little doubt of the true significance of the cough

nor of the nature of the coëxist-
ing constitutional malady.

The complications of Tuberculosis are Pleuritis, Pneumothorax, Hydro-pneumothorax, Pneumonia, Bronchitis, Chronic Laryngitis, Cerebritis and Cerebral Meningitis consequent on the deposit of tubercle in the brain or its membranes.

Diagnosis of Tuberculosis must be a matter of extreme uncertainty to a person unpractised in conducting a physical examination of the chest, not only because of the liability of

security of the peculiar symptoms of Phthisis, but that Bronchitis, Pneumonia or Pleurisy may be present and mask the true nature of the disorder; and even the most experienced auscultator may often find a certain degree of difficulty; for, in the earlier stages of the disease there is no one sign by which the existence of the trouble is clearly marked, and the general symptoms may each, separately or collectively, accompany Bronchitis Pneumonia or Pleurisy. Say more when referable to the presence of

tubercle they may be complicated and masked by the existence of either of those forms of disease; and thus it happens that if great care be not exercised in making the examination of the chest, and much caution observed in drawing inferences from the signs observed an incorrect conclusion will be arrived at. In short, the physical signs, alone, are oftentimes as insufficient as the general symptoms, to form trustworthy data for an opinion, and the fact of the existence of Consumption is only to be established

by a careful inquiry into the history of the patient, a jealous investigation into the general symptoms, and by a comparison of those symptoms with the physical signs as revealed by examination of the chest.

Bronchitis is the disease with which Phthisis is most liable to be confounded. In incipient Phthisis the cough commences gradually, without fever and without the running of the eyes and nose which mark an ordinary cold. The cough is generally dry and hacking for a somewhat

after its commencement. The expectoration is often streaked or speckled with blood, and there is seldom much pain in the chest, and rarely any fixed pain. When pain does occur it is usually of a dull aching character, and is met with under the clavicles or scapulae, or at the sides, and is not usually aggravated by coughing.

The morbid sounds are usually confined to the upper lobes of the lungs, and are often confined to one side of the chest. They are very persistent, and even if met with on both sides at first, are

apt to subside partially or wholly on one side, whilst they continue, or even increase on the other.

Certain combinations of symptoms may be pointed out which are always indicative of tubercular disease of the lungs. Foremost among these are: Obstinate cough, commencing gradually, dry and hacking at first, or at least attended by scanty expectoration, and persisting in spite of ordinary remedies. If a person who has such a cough admits that one or more of his relatives has been consumptive, that he has experienced night sweating

pain about or under the clavicles; that the cough and expectoration have greatly increased and are most troublesome at night; that on one or more occasions the sputa has been mixed or streaked with blood; that he has lost strength and flesh, and has become short breathed on going up stairs the general symptoms of Phthisis will be complete, though it will require confirmation by means of a physical examination of the chest.

So too, if emaciation has occurred without manifest cause, and especially if it has been ac-

companied by any of the general symptoms just mentioned, or by night sweats, or by hoarseness, not connected with a syphilitic taint, and does not speedily subside under treatment, the gravest suspicion of Consumption may be entertained, and a careful examination of the chest is necessary.

Under any of these circumstances a slight flattening of the chest walls, a deficiency of expansion at the summit of one or both lungs; a decrease in the capacity of the chest; the occurrence of more or less dullness on percussion

in the Clavicular, infra-clavicular or Supra-Scapular region, with a harshness or feebleness of the respiratory murmur, an irregularity in its rhythm; the existence of prolonged respiration or of increased vocal resonance, especially at the left apex, and the occurrence of occasional dry clickings in addition to râles or ronchi which may be present; râles of any kind or of whatever character, persistent at and confined to the apices of the lungs, and still more so if persistent at one apex only, and accompani-

ed by haemoptysis, emaciation, night-sweats and other of the signs of Phthisis, may be regarded as certainly indicating Tubercular disease.

Time is an important auxiliary in the diagnosis of obscure cases. Râles which are due to Pneumonia, Bronchitis or the presence of blood effused in an attack of haemoptysis, and dulness referable to pleuritic effusion or to Œdema of the lungs, or to pneumonic consolidation will gradually disappear, and cease to complicate and mask

the signs which are consequent on more permanent and organic changes in the lungs.

The prognosis of Tuberculosis is necessarily unfavorable. In acute Phthisis the downward course of the patient is steadily and rapidly progressive; but in certain cases, instances of Chronic Phthisis, the disease is of long duration; whilst in others, and certainly the majority of cases, it runs a less protracted course, but is nevertheless marked by distinct remissions.

The question therefore arises

whether it is possible to prognosticate which course it will pursue by reference to the character of the symptoms which accompany it. In some instances undoubtedly it is possible to do so, but in others there are not sufficient data for our guidance. It has already been stated that tubercle, when once deposited, may remain for years in "status quo"; or may specially undergo softening or disintegration, and these peculiarities are referable in great measure to the circumstances or constitutional

disorder under the influence of which the tubercle is deposited: the same conditions regulate the entire course of the disease and modify the effects of treatment.

Thus, in any given case, if the intensity of the constitutional disorder can be ascertained, it will not be difficult to predicate with some degree of certainty whether the course of the tuberculosis will be slow or rapid — whether temporary remission or suspension of the symptoms may be expected, or whether they will run on unchecked by remedies.

Now it happens that Phthisis, or that condition of constitution which results in the deposit of tubercle is marked by characteristic symptoms, and when the tendency to tubercular deposit and disintegration is strongly marked, these symptoms are more pronounced. Among these excepting rapidity and softness of the pulse, and unnatural softness and dampness of the skin, the early occurrence of emaciation, and of hectic, with profuse perspiration, sleeplessness, with entire loss of appetite, derangement of

the bowels and diarrhœa;—when these symptoms are observed coincidently with great prostration, hurried breathing and dyspnœa on the slightest excitement; the probability is not only that there is extensive tubercular deposit in the lungs, but that the constitutional derangement is deep-seated and excessive, and that the retrograde metamorphosis of tissue will continue unchecked, and will bring the patient rapidly to his grave. On the other hand, when the pulse remains slow or is but little accelerated

when the skin maintains its normal elasticity, temperature and moisture, when there is little quickening of the pulse-respiration ratio, little tendency to hectic, little perspiration and no diarrhoea, when the appetite remains good and emaciation takes place but slowly — the system is obviously not overwhelmed by the disease, but possesses considerable power of resistance; the progress of the malady, therefore, will be slow, and it is not improbable that, if appropriate treatment be adopted, a

mitigation may occur, or the onward course of the disorder may be arrested. In such cases as these, if the patient be placed under favorable hygienic circumstances, the prognosis will be comparatively favorable, and partial, or practically complete, recovery may take place.

In considering the the treatment of Phthisis there are three distinct questions to occupy the attention; First: how to prevent the occurence of the disease in persons who seem predisposed to its invasion; Secondly;

how to arrest its progress while as yet the pulmonary mischief is limited in extent; thirdly, how to alleviate the patient's sufferings, and smooth his passage to the grave when it is beyond the power of medical skill to avert a fatal issue.

The first questions involve several points on which medical men are frequently consulted, and on which much difference of opinion exists. Modern research has shown that, by invigorating the whole system and improving the functions

of assimilation and nutrition, the tubercular cachexia may warded off, the formation of tubercle prevented and its further development arrested. The question then arises — How is this desirable result to be brought about?

There are certain cases in which change of air is indispensible. Persons of a chilly nature if resident in a cold and bracing locality, must change their situations in order to improve their health. — So, too, must those who require bracing, whose lot is

East in a warm and humid Climate, select a cold, dry and uniform location. These, and all others who happen to be placed under circumstances unfavorable to their general health, will do wisely to migrate at the earliest opportunity; but their migration must not necessarily be to foreign climes. There are many spots in our own Country which afford to the average of Consumptive patients all the changes their organis m demands.

All persons will do well to select as their residence a place

which has ordinarily agreed with them, and if their own houses came within this category, there is no reason why they should leave it for other quarters.

Temporary change of air is useful now and then, by imparting a stimulus which is not to be obtained in any other way; and to persons to whom travelling is a pleasurable excitement, and who, so long as they remain at home, are unable to shake off the cares and anxieties of business, a residence abroad may be almost

indispensible; but the majority of consumptive invalids will fare better in their own homes and in their own country than in the most favored regions abroad, especially now that the railways afford facilities for frequent change. Mere absence from home and its comforts and associations is to many invalids a constant source of annoyance, and regrets while the fatigue of a long journey and the privations incident thereto are bearing upon an already impaired vital-

ity, go far toward neutralizing any good effect that might be otherwise produced. Therefore, with this as with other remedies, its efficacy will depend upon the judgment with which it is employed.

As a preventive of the disease, or as a corrective of that derangement of the health which marks its earlier inroads, a residence abroad, or foreign travel, with the pleasurable excitement incident thereto may, for many persons, though not for all, be regarded as one of our most f

tent and valuable remedies.

During the summer the patient should spend almost the entire day out of doors, walking, riding on horseback, driving, travelling, yachting, or simply sitting in the open air, and even in the winter, provided the weather be fine, he should avail himself of the warmer hours in the middle of the day to take whatever exercise out of doors his strength will permit. It is essential that his clothing be regulated to meet his necessities under the

various circumstances in which he may be placed. Flannel should always be worn next to the skin.

Diet is a subject of equal importance with those I have hitherto discussed. Fresh air, exercise, change of climate and judicious clothing are all subsidiary to our one object of restoring or re-establishing the healthy nutrition. Our principal efforts should be directed to the digestive and assimilating organs, rather than to the organs of respiration.

It happens commonly that dyspepsia is one of the most frequent early symptoms of Tuberculosis, and that during its existence the appetite is very capricious, and fatty matters are generally disliked and therefore avoided.

Some modern observer has stated that a certain amount of fat is essential to the due performance of the digestive process, and that oily matter plays an important part in the healthy metamorphosis of the albuminous constituents of the blood, and in promoting cell-development.

This is sufficiently intelligible, and by the light of the valuable researches of Dr. Hughes Bennett in relation to Cod Liver Oil and other oleaginous and fatty matters in their action in the system, it is hard to doubt its importance in a therapeutic point of view. If then, it be admitted that the assimilation of animal and fatty matter is essential, our main efforts must be directed, on the one hand, to the avoidance of those articles of diet which are likely to prove indigestible and acute

or increase acidity of the Stomach, whereby the assimilation of fatty matter is rendered difficult; and on the other hand to supply food containing albuminous and oleaginous principles in a form in which the weak and disordered Stomach is able to assimilate and duly prepare them for the nutrition of the body. The most carefully regulated hygienic and therapeutic management will fail if the diet is insufficient in quantity, or deficient in quality.

It may be stated that

The diet suitable for Consumptive patients must necessarily vary according to their individual peculiarities. The food which is suitable at one period of the disorder may be quite unfit at another. The stomach may at one time prove able to digest only the lightest and most easily manageable diet, and at another may have acquired greatly increased tone; so that it is necessary to consult our patients feelings and constitutional peculiarities from time to time in determining

the question of diet, and individual idiosyncracies must be carefully sought out and studied if we wish to prescribe food likely to be properly assimilated.

Here we reach the consideration of Cod liver Oil, which may be regarded partly as an article of diet and partly as a medicinal agent.

To whichever of its constituents its efficacy may be due there can be no doubt that it is, beyond all others, the remedy on which most reliance

can be placed.

We are indebted to Dr. Hughes Bennett for our earliest knowledge of its remarkable powers in the treatment of tuberculous disorders. Chemistry has hitherto failed to explain its action, but clinical experience leaves not the slightest doubt as to its beneficial influence.

Of course, its virtues are most strikingly displayed in the earlier stages of the disorder, and in cases where there is not a strong inherited predisposition to tubercular disease, but

This simply means that where there is but little mischief to overcome the Oil has less difficulty in subduing it than where the trouble is deep-seated and extensive, or more advanced, and, speaking generally, it may be stated that it proves serviceable at all ages of the patient and in all stages of the disease, provided that the stomach will retain and digest it, and it becomes duly assimilated.

There are other remedies which may be used

with advantage in certain conditions and under certain circumstances, such, for instance, as the Alkalies, and their salts especially the Hypophosphites of Lime, Soda and Potassa; the Sr. Ferri Chloridi; Infus. Cimicifugae Virginianae; the Chalybeates generally; Cinchona; Quinia; Strychnia and an extensive list of other remedies.

AN

Inaugural Dissertation

ON

Typhoid Fever

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

James K. Chapman

of

South Carolina

Session of 1868 & 69.

Typhoid Fever.

This is essentially an abdominal affection, dependent upon, or connected with an inflamed or ulcerated condition of the mucous follicles or glands of Peyer, and is perhaps one of the most interesting among the Exanthetic diseases. As a disease, it knows no bounds; being confined neither to land nor sea, palace nor prison. Some localities seem to be peculiarly inviting, from the fact, that we see certain regions of country repeatedly visited by this dire calamity. Facts are gathered at the bedside of the living subject,

The rich and poor; the inhabitants of the stately mansion, and the lowly hut; the hoary headed, and the sprightly youth, are all subject to this disease; and afford extensive opportunities for a thorough understanding of its symptoms and course; which is necessary before we can treat the malady successfully. A vast amount of learning has been expended upon the nomenclatures of this disease; we no doubt owe to Louis much of our knowledge as regards anatomical lesions. Some have considered his researches of great value, others think them objectionable. Yet, since it has become so common among all classes, and looked upon as a grave disease, one in which we may hold hope and fear. Let us as students improve ourselves by imitating the examples set before

us by our ~~wor~~ worthy professors. The disease will probably continue to be called Typhoid fever; let it be that, or Enteric fever we must without preference, or choice of names endeavor to be able to recognize it in all its forms, which are classed as follows:

First, simple or mild.
Second, The Intermediate.
Third, The Malignant.

We find it difficult to draw a line of seperation between the several forms just mentioned, so very gradual is the transition from one into the other, that the change is scarcely perceptible. The recognition of this affection may be attended with but little difficulty in a majority of cases, though, its accession is various.

Symptoms — These are also very diverse, but we shall confine ourselves to a statement of the general signs without dealing in specialities. The onset in some cases is sudden, without any premonition whatever; in others, there is a period of incubation, varying from ten to fourteen days. The disorder comes on slowly and insidiously with languor, in a day or two, the patient is often attacked with chills and headache, which last is a very common symptom. Sharp pain in the limbs, weakness with tendency to diarrhoea, — face languid, and pale — The appetite is generally greatly impaired — The pulse rises to 120 per minute, and even higher — breath offensive, tongue dry and brown, or red and glazed. The symptoms of special diagnostic

importance are looseness of the bowels and epistaxis, at the commencement of the second week, or a day or two earlier. The typhoid rash is one of the most characteristic symptoms of typhoid fever. This consists of small rose colored lenticular spots, (taches rouges) usually roundish, and about a line in diameter, though sometimes larger: these disappear on pressure, but return upon the removal thereof. They are never seen at the commencement of the disease, but usually make their appearence between the seventh and fifteenth days; not unfrequently later, and sometimes not until near the close. They occur first, and most numerous on the abdomen, extending to the breast and occasionally to the extremities, and even to the

back and face, though rare at the points last mentioned. I have seen them plainly developed on the upper and inner portion of the thighs on a patient whom my preceptor was attending. Their number is not by any means the same, for we find sometimes only two or three, and then again we find them almost countless. The period of the eruption is from three to fifteen days. Delirium — This is not a constant symptom of the simple or mild form, though its occurrence on waking from sleep or during the night is not at all uncommon — I be leave to mention before leaving the subject this fact — that in several cases witnessed by me during the summer the mind always acted correctly when direct to any particular

person or subject.

Tympanites — This is a swelling of the belly, which comes on towards the end of the first week, and continues until the setting of convalescence, or the termination of the disease in death.

Tenderness on pressure in the right iliac region, with gurgling under the hand, generally exist.

Anatomical lesions — as regards this from my own observation, a discription can not be given. The parts charistically affected in Typhoid fever are the agminated glands or patches of Peyer, the mesenteric glands and the spleen. Observers have shown that the glands of Peyer become thickened, red and elevated from one to three lines above the membrane around them. After this

a sort of induration or softening occurs. Later ulceration may effect many through not all of the altered glands, and this process may go on until it perforates all the coats of intestines. This however is exceptional. The other glands of the intestines (i.e. the solitary closed glands and the mesenteric glands) are commonly enlarged and often softened or ulcerated, occasionally suppurating. The spleen in almost all cases is more or less enlarged and softened; in some instances it is four or five times its normal size.

Causes — The precise cause is unknown. The circumstances favoring its production are diversified. It is certainly often generated in situations where human beings

are crowded together with insufficient or unwholesome food and a confined vitiated air. In some sections it seems to be governed by the seasons, becoming most prevalent during the autumnal and winter months.

Contagion — on this point we have among professional men diversities of opinion — one contending it is contagious another denying it altogether. We are forced to the opinion, if contagious at all, only feebly so, and under peculiar circumstances.

Duration — This is modified by circumstances. The average duration being from twenty to thirty days, though cases of unusual persistency continue for six or seven weeks, and some cases extend a longer period.

Complications — That Typhoid fever is occasionally complicated with other diseases will not admit of any doubt. The earliest complications are bilious remittent fever and acute pneumonia, pleurites, is sometimes met with in connection with this disease. At a late stage of the disease hemorrhage from the bowels in fatal cases ensues. Peritonitis follows always when a perforation of the ileum takes place. This is a fearful accidental inflamation occuring sometimes when least expected. It is useless for me to mention the signs indicative of its occurence, as it is rare that there can be any difficulty in ascertaining its existence, notwithstanding, like the fever itself it is to a certain extent latent.

Diagnosis — mention has been made of some of the most characteristic symptoms. The continuance of fever with an evening exacerbation of febrile heat, tympanitis, bronchial rales, rose colored eruption, and a tendency to diarrhoea, all add to the positive conclusion as to the true character of the disease. There are other symp of the disease superadded in the intermediate stage, such as dry tongue with a brown stripe down its middle, slight collection of sordes about the lips, gums and teeth, twitching of the tendons, deafness, delirium, &c. The young and inexperienced physician may find some difficulty in making a correct diagnosis though a strict attention to the symptoms will ensure success.

Prognosis — It is not an easy matter to arrive at any positive result of the variable influences, which operate in its production, march, and termination. A favorable prognosis in any case can rarely be pronounced with absolute certainty. No case however mild it may seem is free from danger. No case should be looked upon as absolutely desperate. There is no condition so low no symptom so fatal that life should be considered hopeless. The most desperate state is probably that connected with intestinal perforation. The possibility of a perforation of the bowels by the ulceration of Peyer's glands gives an element of uncertainty to every case. Probably one death in twenty cases represents the mortality.

Treatment — It is a question of great importance to say how far it is needful for us to interfere in the management of typhoid fever. Too much may be, and often is done. The success in the management of the disease is attributable to great care being taken of the patient, and the medicine given, should be well timed. To know <u>how</u>, and <u>when</u>, to interfere, constitutes the successful practitioner; to act with deliberation is the golden rule. It should be recollected the fever cannot be cut short by any plan of treatment, though we may do much to limit to moderate the violence of the disease, and arrest in many cases a fatal termination. By close watching on our part we may be able to do our patients much good.

Condition of the system, State of the disease, Age, sex, habit, and tendency to complication, all demand constant attention, without which, no hope can be entertained of a successful treatment.

Therapeutic Agents — these means are various; each plan of treatment has its advocates; the plan of treatment consists more in the period at which certain remedies should be given, than in their choice. In speaking of them severally Emetics seem to come first in order, and by many practitioners are considered of eminent service in the beginning of the disease.

An Emetic cathartic to produce a complete evacuation of the bowels may be given in the absence of a tendency to diarrhoe.

After which, the body and bed linen should be made an object of special attention, as too much care cannot be paid to this, as cleanliness will aid us materially. Throughout the progress of the disease it is generally thought best that the bowels should be moved once or twice in the course of twenty four hours; should this not occur, mild laxatives may be administered, such as Croton oil, a single dose of Seidlitz powders, one or two drachms of Epsom salts, or a half drachm Magnesia; either of them may be given, and repeated if necessary. The morning is the best time for administering these agents in order that their effects may be accomplished before night, as a restless night should be avoided if possible.

Blood letting — bleeding will not arrest the disease, if carried too far, or improperly employed, may so prostrate the system as to cause it ultimately to sink under the malady. The main use of bleeding, says Wood, is to prevent local and disorganizing inflammation. The local abstraction of blood may be of great service, especially, for the removal or abatement of epigastric or abdominal pains. Diaphoretics — These agents are used to bring about a relaxation of the surface, a reduction of pulse heat &c. Of these, spiritus Mindereri, acetate opto. Nitre, the neutral mixture or effervescent draught is most generally chosen, and administered every two or three

hours during the day; when the skin is hot and dry covers powders at night to induce moisture and procure rest.

Veratrum Viride — This article has some advocates, and some opposers; it is employed to control the heart's action; the dose is from four to five drops, increasing the quantity by one or two drops until a dose of ten drops is reached, when its effects should be displayed. Astringents — are of great importance especially when hemorrhage from the bowels occurs. Opium and the Sugar of Lead are considered the means for its arrest taken in Tinctura to prevent the acetate from becomming converted into the Carb of Lead. Creosote is employed to arrest hemorrhage from the gums and gastric

Fomentations — the ordinary application may be used, they should be applied as warm as can be borne by the patient; in many cases much good may result from their employment.
Oil of turpentine — This agent as a remedy — when best to employ it is of great importance. According to the testimony of Wood, the occurrence of the dry state of the tongue is the signal for its use; given in dose from ten to fifteen drops every two hours.
Tonics and stimulants — in the employment of these agents great discrimination is often requisite. If the pulse be soft and compressible skin cool and moist strength considerably prostrated the indication for stimulants are pretty surely made out. When under the use of stimulants the pulse

becomes slower and fuller, the skin warm and moist, the respiration more slow, the tongue moist and clean, delirium abates, and sleep follows; the stimulants are doing good. Quinin — I am satisfied has no place as a curative of this fever. It is useful as a tonic, after the critical period of the passing of the height of the fever; not more than eight or ten grains per diem or two grains doses, in twenty-four hours. A few, many cases of typhoid fever require alcoholic stimulants at any stage. About one fourth of the cases need it before the middle of the second week, when the fever begins to decline; many require it freely in three-hour doses a wineglassful about every three hours. Often when wanted brandy or whiskey —

punch; table-spoonful of brandy with the same ounce the quantity of milk. Beef-tea is indispensible in nearly all cases, from the second week. We find it necessary to nourish the patients from the commencement of the disease. During the first week rice-meal-gruel, toast-water, rice-water we may be given; afterwards milk may be added, one or two table-spoonfuls every two or three hours. This I offer as a treatise of Typhoid fever.

I can not close this essay and do justice to my feelings without endeavoring though words are incompetent to express in a small degree, my heart-felt thanks to the Faculty of "Maryland University — School of Medicine" for their untiring

efforts, and never ceasing exertions, to instill into my youthful brain that degree of knowledge, which hereafter is to enable me to meet, combat, and repel the attacks of that foul invading disease —
Whatever fate may have in store for me: should I be called to the cold and icy arctic, or the hot and scorching tropical regions; my mind will ever return to the time when I had the honor to sit under, and catch the droppings of wisdom as they fell from the expanded minds of the several professors composing the faculty of my Alma Mater. This weak attempt must be brought to a close, "Deal with me with a critic eye but prop my imperfections by."

AN

Inaugural Dissertation

ON

[illegible]

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

[illegible]

of

[illegible]

Session of (1868-69) 1868.

Diagnosis of Simple Fever

In the young practitioner of medicine [illegible] is more difficult than it should be to form a correct diagnosis of disease, and to [illegible] it. No one can be successful in the practice or become [illegible] in the profession. The diagnosis of disease is many difficulties. The more fatal kind of [illegible] diseases, present the [illegible] symptoms and consequently have [illegible] the same [illegible] of the disease of [illegible] difficult [illegible] and especially [illegible]

an [illegible] on the part of the
female [illegible] [illegible] [illegible]
they [illegible] pregnancy. [illegible] [illegible]
[illegible] is a [illegible] on the part of the
[illegible] female [illegible] [illegible] [illegible]
of the [illegible] of [illegible]
To make distinctions, and [illegible] [illegible]
ly, in cases of the [illegible] [illegible]
[illegible] great [illegible] [illegible]
careful [illegible] on the part of the
[illegible] [illegible] a [illegible]
already obtained [illegible] [illegible]
[illegible] with [illegible] [illegible]
a correct [illegible] [illegible]
of the [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible]

[illegible] in many parts of the body have the alterations which are produced, not by conception, must be production of some change in the general system. These changes in the signs of pregnancy, I shall not have to as the subject of my thesis. I would have premised that among the first steps in pregnancy the organic functions must undergo [illegible] like in kind influence in [illegible] or [illegible] disease, for as they are dependent by an [illegible] condition of the uterus exerting [illegible] other parts, they may be [illegible] by any circumstance that may affect or alter the natural state of that organ.

Health has been [illegible] by [illegible] of [illegible]

[illegible] of [illegible] [illegible]
[illegible] [illegible] [illegible] of pregnancy [illegible]
[illegible] of [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of pregnancy, but as most of the symptom[illegible]
[illegible] of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] to dwell upon them. The signs
laid down by Pregnancy have been generally
received. Among the natural signs of
pregnancy is placed the secretion of
the breasts. This secretion of the [illegible]
flow during the progress of pregnancy
accompanied with fulness in the
breasts, headache, and flushing of the
face. The [illegible] of the [illegible] is
admitted by all [illegible] a [illegible] [illegible]
in [illegible] [illegible] [illegible] after a [illegible]

[illegible]

of the patient on the part of the parents

he was discovered [illegible] by [illegible]

and the general health of the patient

is the good. He [illegible] [illegible]

of [illegible] by [illegible] it is a sign of

pregnancy. After this [illegible] [illegible]

to the general loss of the [illegible] [illegible]

[illegible] discharge during gestation

have [illegible] [illegible]

for [illegible] [illegible] [illegible]

establish a [illegible] [illegible]

[illegible] [illegible] [illegible]

an other cases on record where par-

[illegible] the pregnant state [illegible]

[illegible] equally [illegible]

[illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

having one ventricle, but inferring from what little has been said concerning their cases, their occurrence must [illegible] many causes. [illegible] to prove the bad effect [illegible]

[illegible]

with the phrase in question [illegible] peculiarity [illegible]

[illegible]

is sometimes smaller at the termination

of second month than it was at the first owing probably to the disappearance of the [illegible] which had accumulated during the first month, but in the absence of the tympanites the abdomen is smaller during the first [illegible]. The second month [illegible] probably to the fetus having [illegible] in the expansion. After the fifth month the abdomen is somewhat increased in [illegible] and bulkiness probably to enlarge during the whole period of gestation. The [illegible] in the [illegible] of the abdomen [illegible] the hypogastric [illegible] in the median line, the sides appearing [illegible] flattened [illegible]

of uterus is more rapidly developed in

this pregnancy. It may still remain

[illegible] [illegible] large [illegible] fourth or

fifth month then attain [illegible] at the

four [illegible] of gestation [illegible] in all

probability be the difference in [illegible]

[illegible] The depression at the [illegible]

appears during the early months of

pregnancy, [illegible] is drawn

downwards, the depression [illegible]

in many [illegible] [illegible]

[illegible] a portion of the [illegible]. The

several months the umbilicus assumes

its natural shape. As gestation [illegible]

[illegible] the umbilicus may become

somewhat [illegible] and during the

latter months of [illegible] the [illegible]

of human obstetrics [illegible] [illegible] Sympathetic [illegible] to the [illegible] should not be neglected in diagnosing pregnancy. An author of much celebrity treats the appearances of the [illegible] as affording some signs of pregnancy. Smellie and Hunter considered the changes in the [illegible] as unmistakable evidence of conception. From these conditions we are [illegible] to [illegible] [illegible] [illegible] we should [illegible] [illegible] to them when they exist but as [illegible] conception [illegible] [illegible] where they were wanting their absence does not prove that [illegible] [illegible] not [illegible] [illegible] of [illegible] [illegible]

[illegible] in [illegible] either health or
[illegible] appearance [illegible]
[illegible] [illegible] [illegible] [illegible]
a certainty [illegible] the [illegible]
[illegible] the [illegible] [illegible]
that when the parents have been
children, these agree in less [illegible]
[illegible] upon. It is alleged that
Hypothesis [illegible] in the [illegible]
[illegible] side of the [illegible]
state. Many [illegible] [illegible]
by [illegible] [illegible] the [illegible]
and [illegible] [illegible] among
the [illegible] [illegible] of [illegible],
[illegible] to the [illegible] of [illegible]
is deemed a valuable [illegible]
in [illegible] [illegible]

This difficulty is overcome by vomiting which generally occurs first the second attack and continue for several months after which time the vomiting generally ceases. The recurrence however may take place at a later period. In the first attack and perhaps it will not be out of place that this condition may be designated as a form of hysteria violent and continued almost throttling their lives and baffling the skill of the professional. Amongst Hindu women and females who suffer from the effects of constitution and who have

[illegible]

[illegible]

[illegible]

[illegible] epilepsy, and all the remedies

ever heard of were unable to

relieve or abate the [illegible]

not producing any [illegible]

affected [illegible]

[illegible] the [illegible] to other profession

gentlemen. According to the general [illegible]

[illegible] in the subjects of the

[illegible]

[illegible]. A very interesting case of the

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

past a respectable and

was instituted by said Physician as

[illegible] thought to be
in a very precarious condition,
judging from his general appearance
and the [illegible] of the [illegible]
of [illegible]. He [illegible]
a great degree of composure respecting
his health would be [illegible]
a [illegible] of [illegible]
[illegible]
and this first time [illegible]
[illegible]
[illegible]
[illegible] the day
[illegible] the [illegible]
knees passed [illegible]
[illegible]
and becoming [illegible]
his friends, and they [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

ledge that all he had done and

[illegible]

[illegible]

[illegible]

ing would check the attacks. The

[illegible] exception [illegible]

result to husband, and each succe-

[illegible] the victims

[illegible]

of four children so

[illegible]

[illegible]

husband for his a three months

[illegible]

robust for he was a man of fine

appearance and remarkable [illegible]

[illegible]. I have remark his wife [illegible]

[illegible]

[illegible]

[illegible] I am not inclined

[illegible]

to be correct I relate the simple facts

as presented and leave the reader to

draw their own conclusions [illegible]

[illegible]

[illegible]

appearance [illegible]

[illegible]

easily spoiled. Some during

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

over. About the fifth month the

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]. At this time the [illegible] may cease to appear and the vomiting may return. At [illegible] the ninth month, although about the first of the ninth month there is some difficulty of breathing but towards the latter part of that month the breathing becomes easier. The vomiting generally ceases. At this time the limbs swell out from pressure on the veins. Hemorrhoids may make their appearance and the patient has frequent [illegible] to [illegible] [illegible] the [illegible] signs are the following. The woman generally feels foetal movements about the [illegible] month of gestation.

By means of

[illegible] This is a means
of diagnosing gestation. But as a stim-
ulus in the [illegible] or other [illegible] may
produce the same effect this does
not furnish a sure sign of conception.
When the pulsations of the foetal
heart are [illegible] by auscultation
then it is that all doubt as to
reference to the condition of the
woman is at an end. By the
[illegible] the motions of the foetus
[illegible] previous to the
[illegible] [illegible] the foetus [illegible]
usually felt about the [illegible] at
the end of the fifth month or the
[illegible] at the end of the
sixth month. The cavity of the

[illegible] is permitted [illegible] in the multiparae through a lower [illegible] in the primiparae. During the second and [illegible] months of the [illegible] the [illegible] is greatly [illegible]. The fetus is expelled [illegible] the [illegible] and [illegible] the [illegible]. The fetus is [illegible] forward above the [illegible] of the [illegible]. The [illegible] may be detected [illegible] the margin of the fold [illegible] the right. The [illegible] is effaced until the [illegible] of the [illegible] [illegible] above. During the latter part of the second month the fundus

[illegible] I have engaged in the examination [illegible] the expedition. Most of the [illegible] facts which have spoken of in the beginning of my [illegible] of the many difficulties I have encountered in forming a correct diagnosis of prostatitis and the problems which can be [illegible] particularly by the gravity problems in forming an opinion as to the respective merits. I am [illegible] with [illegible] though obstacles present themselves, which appear almost insurmountable. Though from [illegible] the expedition [illegible]

[illegible]
[illegible] from the [illegible]
guished Authors I have read
upon the subject that [illegible]
all circumstances [illegible]
[illegible] diligence and [illegible]
the prediction [illegible]
diagnosis and that he [illegible]
the fear of being in error.

J. E. S. Wagner
[illegible]

AN

Inaugural Dissertation

ON

Intermittent Fever.

Submitted to the Examination

OF THE

Provost, Regents and Faculty

OF

PHYSIC,

OF THE

UNIVERSITY OF MARYLAND,

FOR THE DEGREE OF

DOCTOR OF MEDICINE,

By

Abram Inger Wheatley

of

Harford County, Maryland.

Session of 1868-69.

Preface.

While the author of this was a student of medicine he received an appointment as the medical officer of a [illegible] it was not untill after he had entered upon his duty for the first time that he was awakened to the great responsibility devolving upon him. It was then that he [illegible] that the lives of [illegible] hundred and twenty [illegible] [illegible] to the great and spiritual [illegible] [illegible] that [illegible]

[illegible] lose the vital spark, and send a sunder, the brittle cord of life, and they should give a [illegible] thrilled him with horror, and caused him to shudder, and the very [illegible] the death like [illegible] possession itself to him. Here [illegible] to the young practitioner of [illegible] embarrassment when he [illegible] the duties of his profession, [illegible] definitions of diseases, and thereby [illegible]

them in the very opposite manner to
they should be treated, to restore them to
a healthy condition; and consequently
this mode of treatment only has a
tendency, to aggravate and promote the
[illegible] [illegible] [illegible] [illegible]
[illegible] either in the [illegible] or [illegible], or
what ever part of the system to which they
may be confined. It is a [illegible] [illegible]
no one but the [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]

which he is called to attend; and snatch his patient as it were from the death, who has laid so many in the silent tomb. It is only after the student of medicine, has [illegible] medical training at [illegible] years, in the theory and practice of medicine: that he becomes sufficiently skillful in his profession to be master of disease, that might, destroyer flesh, claiming upon mankind [illegible]

periods of life, not [illegible]
in various ways by which it can be
[illegible] upon that mind and [illegible]
[illegible] into which he [illegible]
[illegible] of life and made it [illegible]
any disease or enemy that chose to
attack its organic structure. The
said master of disease, may not master but
warrior against it; [illegible]
for his sword and his drugs for the
shield to go forth into the world to
[illegible]

thousand, and more diseases which it is heir to. And after he arrays and equips himself with [illegible] in the profession [illegible] before the world he [illegible] practical course. [illegible] at this important period of [illegible] an incorrect Diagnosis [illegible] would cause him to use [illegible] it should become known [illegible] [illegible] would [illegible]

total ruin as a practitioner of medicine,
and even if it did not, it [illegible]
to regain his reputation. The [illegible]
more shows the great practical impor-
tance of being slow in judgment and sure
in every step towards forming a correct
Diagnosis, upon which rests not only his
own reputation, but the life [illegible]
of his patient depends upon his decision.
[illegible]
to be looked up to the age and days pre-
[illegible]

last half cent. [illegible]

need and closer relations with almost

all other departments of physical science,

but with none however in so intimate

and indissoluble a manner as with that

of [illegible] Diagnosis. And [illegible]

to keep pace with advancing science the

study required in forming a correct Diagnosis

by the young practitioner; as it relates

particularly to Medical Knowledge and

practice, has become [illegible]

indespensable study; [illegible]

wishes to practice, teach, or in any way cultivate medical science, and become successful in his profession, and meet all its required demands at the present time, satisfactory evidence to show that it does belong to the good that has in no instance violated the rules & principles of the disease, and that he has not established a system of treatment based upon principles of erroneous and unfounded character. As we have not [illegible] to the pharmacist, chemist, and physiologist

well as to the physician all having [illegible]
and phenomena to deal with, and
consequently each has [illegible] by [illegible]
familiar with them at least [illegible]
by [illegible] to their respective lines of
practice. [illegible] [illegible]
in the system which [illegible]
Diagnosis. This subject therefore
embraces more aspects than one.
It [illegible] not only [illegible]
and [illegible] ideas [illegible]
of treatment for many [illegible]

and diseases; but it affords a distinctive phase of nature in growth, waste and repair; in cause and cure, disease and remedy, and of nervous phenomena in particular; thus throwing light on the whole range of healing art, by studying opposites. Care and practical attention should attend our every step as students in this interesting department of medical science, if we would have ever stood the test of time and present general consent to the

intelligent that is entirely in harmony with the laws of nature and with the moral laws of God.

Will they speak generally and impartial reception for our American medical world, of what has already been achieved by them. Therapeutics is usually treated of as a science and presented as a part of the foundation of a thorough medical education that course embraces the [illegible]

All classes of organized [illegible]

organisms have their appropriate chapter according to the mode of development nutrition, and growth. But in the through organs they become the seat of disease and refuse to perform their special functions which nature has commanded them to perform, and they like the death products of the living tissues become poisonous which is required to be assimilated to healthy tissue or to be expelled from the body. At this important period

the young practitioner is required to form a correct Diagnosis from its varying symptoms and the different stages of the disease which they may be labouring under; by ascertaining the cause the rapidity of its progress and to bring them to a correct settled point by a decision of the judgment to prescribe the appropriate medicine required in special, and in general treatment, to allay or arrest the morbid process of the disease that [illegible]

healthy condition of its nervous state
and thereby assist that power which
is not in accordance with the laws of
nature in the living body. The action of
various forms of disease; and method
of the administration and application
of drugs appear to be studied and to
be made ready to be matched to appropriate
at the proper time, and to the appro-
priate disease in order to get a true
knowledge of the Philosophy of life the healthy
disease and the catastrophy of death

as manifested by the tissues

both natural and artificial

ces, together with the general

tissues in health and in disease.

understood; in order

tal ruler for the ration

require constant search for

ine the broad

by our American medical

nervous action, and

And another large class

Anaesthesia, as de

next in order comes appearing the
studies of Midwifery, Surgery, etc. &c.
the special duties of Graduates
[illegible]
in which drugs in some form or other
must be administered, which
[illegible]
[illegible]
profession; we must do it with the
fullest sense of their importance to
our future [illegible] to
future medical career, and reputation
[illegible]

[illegible] persons [illegible]

[illegible] constantly keep in mind the [illegible]

[illegible] that [illegible] [illegible]

[illegible] power; his hereditary [illegible]

whatever deformities may

either physically or mentally.

[illegible] [illegible] [illegible]

medicines [illegible]

[illegible] particular disease [illegible]

[illegible]

[illegible] while on the [illegible]

has given for example [illegible]

[illegible] experiencing the least

[illegible]

effect on the [illegible]

climate. It [illegible]

[illegible]

and the [illegible]

[illegible]

medical career [illegible]

Physique. [illegible]

For a routine practitioner, new gains for nursing the [illegible] [illegible] of the community [illegible] the [illegible] [illegible] of [illegible] prescribing.

Febris Intermittens

Intermittent fever, a term applied to fevers in which the paroxysm intermits and returns, usually at nearly regular intervals; which includes three principal species, viz: Quotidian, the paroxysm of which returns every day;
Tertian, in which the disease returns every third day, that is on alternate days;
Quartan, in which it returns every fourth day, thus leaving two days between the paroxysm.
The disease is characterized by febrile

paroxysms, recurring at stated times, and by the absence of fever between the paroxysms.

The intervening period, from the end of one paroxysm to the commencement of the next, is called the intermission; the whole period occupied by one paroxysm, and the succeeding intermission, is called the interval.

The regular types above mentioned are liable to numerous diversities.

The quotidian is sometimes double, having

two paroxysms every day.

There is a double tertian, with a daily paroxysm, occuring at different periods, or with different character, on successive days; the paroxysms of alternate days only corresponding with each other.

Thus, on the first and third day, the paroxysm may take place in the morning, and correspond with each other in grade and character. also on the second and fourth day they shall occur in the afternoon, and in like

manner correspond with each other, but differ from those of the other two days. It thus appears that two tertians are going on together, but with paroxysms at different periods of the twenty four hours.

Sometimes there are two paroxysms in one day, and none in the next. This variety is named duplicated or doubled tertian.

Other varieties are mentioned by writers as the tripled and the quadruple tertian.

the doubled and tripled quartan &c.
but these distinctions are mere refinements,
of no practical value, and accordingly were
in nature; if indeed they have any other
foundation than in the imagination
of observers. Of all the varieties above
enumerated the tertian and quotidian
are the varieties which occur most
frequently. It is said that cases
have been noticed, in which the paro-
xysms are altogether irregular.
These are distinguished by the title of

erratic intermittens.

Symptoms. - Each paroxysm of an intermittent, when quite regular and fully formed, consists of three stages; viz., the cold, the hot, and the sweating, which usually succeed each other in the order mentioned.

Very often, the paroxysm is preceded by the ordinary preliminary symptoms of fever, such as feelings of languor or weariness, general uneasiness, yawning, &c; and occasionally these feelings

with perhaps some pain in the head and back, impaired appetite, and a scarcely observable degree of febrile excitement, constitutes the whole apparent disease for several successive paroxysms. If persons is seized with the above symptoms or something like them, which after a few hours passes, almost without notice, and are perhaps quite forgotten, until, upon their recurrence the next day, or the day after, or upon a third session at the same interval, and each time

with increased severity, the patient is reminded of the preceding attacks, and finds himself, or is informed by his physician that he is labouring under intermittent fever.

Attention to these imperfectly formed preliminary paroxysms is important; as the disease may be arrested by the application of proper measures at this early stage, and much subsequent inconvenience and discomfort spared the patient. Sometimes however,

the first regular paroxysm seizes the patient in the midst of apparently good health, and without warning.

Cold Stage. - After some yawning, &c, the patient experiences sensations of chilliness, especially in the limbs. These increase, and gradually spread over the body, becoming often severe and distressing. Not unfrequently, the chilliness seems to run in longitudinal lines, as if little streamlets of ice cold water were trickling down the trunk. Along with this,

the patient experiences shivering or trembling; rapid and successive shudders run through the frame; the teeth often chatter, sometimes loudly, and the bedstead is occasionally shaken with the violence of the involuntary movements. These tremors, in connection with the sensation of cold, are technically denominated rigors. The body often feels cold to an observer, especially the hands, feet, nose, ears and cheeks; but this is by no means uniform

the case. Sometimes the surface is hotter than in health, even when the patient experiences a feeling of cold.

In connection with the sensation of coldness, the surface is pale and contracted, and not unfrequently presents the rough appearance called goosefleshy, which is owing to the projection of the sebaceous and capillary follicles, while the proper tissue of the skin shrinks. From the same cause, the hair sometimes bristles, stands upright.

The hands are shrunken, the features

contracted, the countenance pale, and the lips and ends of the fingers often purplish, or sometimes livid.

Though the tongue is pale and moist, there is often thirst; all disposition for food is lost; and occasionally nausea, and vomiting of food, mucus, or bilious matter, are experienced. The breathing is irregular, and often hurried; and the patient has a feeling of oppression or weight in the epigastrium or chest, which causes him to sigh deeply. There is sometimes a short

dry cough. The pulse is small, in some instances accelerated, even very much so, in others slow, often irregular and feeble. The secretions are generally scanty; but the urine is usually pale, limpid and copious. The nervous system is much disordered. Independently of the tremors already alluded to, there is often severe pain, of a neuralgic character, in the back, loins, and extremities, and sometimes blind. The temper is not unfrequently irritable, and the mind confused, dejected and

sometimes wandering. Occasionally there is drowsiness, which, in some rare instances, deepens into stupor, coma, and even symptoms of apoplexy.

The duration of the cold stage varies greatly. At times it does not exceed a few minutes, at times extends to three or four hours or more. On the average, it may be stated at about an hour. Hot Stage. - The passage from the chill to the hot stage is not abrupt. Rigors for a time alternate with flashes

of heat. The first sensation of warmth are rather agreeable than otherwise. A glow is felt about the face and temples, and the patient is conscious of increased heat of breath.

Gradually the whole surface becomes hot; but even now if a limb be moved into a cold part of the bed, sudden chills are felt, shooting disagreeably through the frame. At length all traces of the cold stage disappear, and the patient is affected with a universal burning heat.

The cheeks are flushed, the eyes prominent, the surface is everywhere reddened and the skin distended with blood. The evidence of increased heat is not confined to the sensation of the patient. The temperature of the body is positively increased. It has been found by the thermometer, to range from 105.° to 112.° in warm climates. The mouth is not only dry, the tongue usually furred; and the patient generally complains of great thirst, though this is not invariable. There is also disinclination for

food, and occasionally nausea and vomiting. The respiration is more regular than in the chills, but is still accelerated. The pulse is more frequent than in health, and is usually full and strong.

In some cases however, when the state of the system is adynamic, it is at once frequent, and feeble. All the secretions are diminished; the skin being dry as well as hot, and the urine scanty and often high coloured. The head is almost always painful sometimes very much so;

and the suffering from this cause, as well as the general violence of the febrile reaction, is often greater than is usual in remittent or continued fever. The pain frequently throbbing, with a feeling of distension in the temples, and seems to be deep in the head, unlike that of the chill, which is generally superficial.

There is frequently also pain in the back and limbs. Convulsions are not uncommon in children, at the commencement of the hot stage. The duration of the hot stage varies

from two to eighteen hours or more.

Sweating Stage.- Perspiration generally appears first upon the face and breast, and gradually spreads over the surface; at times slight but generally copious, and occassionally very profuse.

Upon its first appearance, the patient begins to feel some relief, and the febrile symptoms gradually abate as it advances. The skin becomes soft, the equilibrium of the circulation subsides, the mouth moistened, the headache disappears, and the patient

frequently falls into a calm sleep from which he awakes free from fever.

The kidneys now resume their functions, and the urine which is discharged, very often deposits a lateritious sediment upon cooling. It has been stated that the cold stage produces the hot, and the sweating; but this is scarcely probable, at least with regard to the two first stages, which bear no proportion to each other; a protracted and severe chill being frequently followed by less fever than a very slight one, and the

fever sometimes occuring without any preceeding chill whatever.

The probability is, that while the depression of the cold stage is naturally followed by some degree of febrile reaction, as a necessary consequence, the morbific cause, whatever it may be, is capable of producing the hot stage by a direct influence.

The whole duration of the paroxysmic pathogenesis.

Causation.- The causation involves a special morbific agent, commonly known as Malaria. The production of the special

cause, now attributed to vegetable de=
composition in marshy localities, and
called marsh miasm. Observation
shows that it is generated more espec=
ially in marshy situations, but its
production is not confined to such
situations.

Diagnosis.- In well marked cases
the diagnosis offers no difficulty.
The type is to be determined only by the
duration of the intervals, and a com=
parison of the paroxysms.

X) Prognosis.- Ordinary intermittent fever, as regards immediate danger, is not a grave affection. Whenever the disease involves danger it is to be considered as not belonging to ordinary intermittent fever.

XI Treatment.- For the cure of intermittent fever, medicine possesses specifics, yung remedies are entitled to this appellation. This statement applies especially to the salts of Quinia, of which the sulphate is the one almost universally used.

The sulphate of Quinia will promptly interrupt the recurrence of the paroxysms of intermittent fever, in the vast majority of cases. It is always desirable to arrest the disease as speedily as possible. As regards dose, the most effective plan is to give the remedy so as to produce evidence of cinchonism, as speedily as possible. It should be given in small and repeated doses. The most effective form of administering it is in solution, its solvency being secured

by the addition of a few drops of the Aromatic Sulphuric Acid. It may be given, however in powders, or pills.

Respectfully Submitted by
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